



# **STIC Search Report**

## **EIC 1700**

**STIC Database Tracking Number: 132153**

**TO: Eisa Elhilo**  
**Location: REM 9A60**  
**Art Unit : 1751**  
**September 16, 2004**

**Case Serial Number: 10/603231**

**From: Kathleen Fuller**  
**Location: EIC 1700**  
**REMSSEN 4B28**  
**Phone: 571/272-2505**  
**Kathleen.Fuller@uspto.gov**

### **Search Notes**



# STIC Search Results Feedback Form

**EIC17000**

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader  
571/272-2505 REMSEN 4B28

## Voluntary Results Feedback Form

- I am an examiner in Workgroup:  Example: 1713  
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28



=> FILE REG

FILE 'REGISTRY' ENTERED AT 11:06:27 ON 16 SEP 2004  
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 14 SEP 2004 HIGHEST RN 744786-72-9  
DICTIONARY FILE UPDATES: 14 SEP 2004 HIGHEST RN 744786-72-9

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> FILE HCAPLUS

FILE 'HCAPLUS' ENTERED AT 11:06:31 ON 16 SEP 2004  
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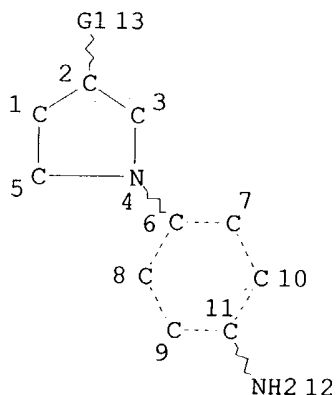
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FILE COVERS 1907 - 16 Sep 2004 VOL 141 ISS 12  
FILE LAST UPDATED: 15 Sep 2004 (20040915/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> D QUE

L3 STR



*360 structures from this query*

VAR G1=SI/O/N/AK  
 NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE

L5 360 SEA FILE=REGISTRY SSS FUL L3  
 L6 96 SEA FILE=HCAPLUS ABB=ON L5  
 L7 47 SEA FILE=HCAPLUS ABB=ON L6(L) (PREP OR IMF OR SPN)/RL  
 L8 10 SEA FILE=HCAPLUS ABB=ON L7(L) (HAIR OR KERAT?)  
 L9 19 SEA FILE=REGISTRY ABB=ON L5 AND 1-20/SI  
 L10 17 SEA FILE=HCAPLUS ABB=ON L9  
 L11 15 SEA FILE=HCAPLUS ABB=ON L10 AND (HAIR OR KERAT?)  
 L12 23 SEA FILE=HCAPLUS ABB=ON L11 OR L8

*23 CA references with utility*

=> D L12 BIB ABS IND HITSTR 1-23

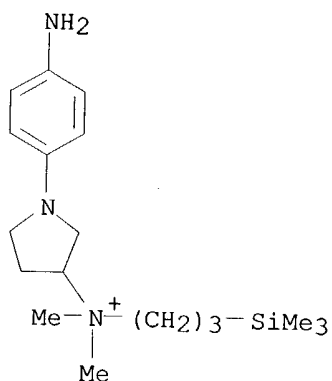
L12 ANSWER 1 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:482172 HCAPLUS  
 DN 141:42544  
 TI **Hair** dyeing compositions comprising a tertiary  
 p-phenylenediamine with a pyrrolidine ring and a vitamin derivative  
 IN Cotteret, Jean; Lagrange, Alain  
 PA L'oreal, Fr.  
 SO Eur. Pat. Appl., 52 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA French  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1428517	A1	20040616	EP 2003-293142	20031212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2848431	A1	20040618	FR 2002-15764	20021213
PRAI	FR 2002-15764	A	20021213		
OS	MARPAT 141:42544				

- AB **Hair** dyeing compns. comprise a tertiary p-phenylenediamine with a pyrrolidine ring and a vitamin derivative Thus, a composition contained oleyl alc. 6, oleic acid 3, diglyceryl oleyl ether 6, hexaglyceryl oleyl ether 6, diethylaminopropyl laurylamino succinamate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, propylene glycol 20, dilinoleic acid 1.5, reducing agents 0.915, sequestrants 1, resorcinol 0.085, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 1.0, 2-methyl-5-aminophenol 0.5, niacinamide 0.2, perfume qs, ammonia 10.2, and water qs to 100 g. The above composition was mixed with 6% H2O2 and applied onto **hair**.
- IC ICM A61K007-13
- CC 62-3 (Essential Oils and Cosmetics)
- ST **hair** dye phenylenediamine pyrrolidine vitamin
- IT Phenols, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (amino; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)
- IT Surfactants  
 (amphoteric; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)
- IT Surfactants  
 (anionic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)
- IT Polyelectrolytes  
 Surfactants  
 (cationic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)
- IT Amines, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (diamines, aromatic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)
- IT Dyes  
 (direct; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)
- IT **Hair** preparations  
 (dyes, oxidative; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)
- IT **Hair** preparations  
 (dyes; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)
- IT Fatty acids, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (essential; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)
- IT Tocopherols  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (esters; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)
- IT Human  
 Oxidizing agents  
 Surfactants  
 Thickening agents  
 (**hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)
- IT Bromates  
 Ethers, biological studies  
 Tocopherols  
 Vitamins

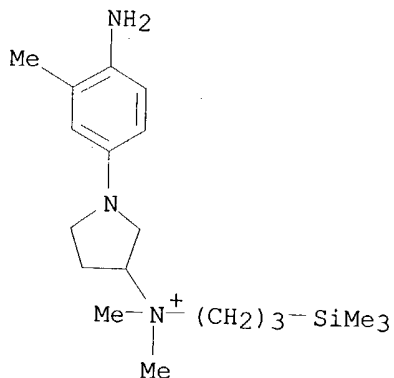
- RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(**hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)
- IT Surfactants  
(nonionic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)
- IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(peroxy; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)
- IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(phenolic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)
- IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxy; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)
- IT Surfactants  
(zwitterionic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)
- IT 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol, biological studies 58-85-5, Biotin 58-95-7, Vitamin E acetate 59-02-9,  $\alpha$ -Tocopherol 59-30-3, Folic acid, biological studies 59-43-8, Thiamin, biological studies 59-67-6, Nicotinic acid, biological studies 64-17-5, Ethanol, biological studies 65-23-6, Pyridoxine 79-83-4, Pantothenic acid 81-13-0, Panthenol 83-88-5, Riboflavin, biological studies 87-89-8, Inositol 90-15-3, 1-Naphthol 91-86-1,  $\eta$ -Tocopherol 95-55-6D, o-Aminophenol, derivs. 95-88-5, 4-ChloroResorcinol 98-92-0, Niacinamide 106-50-3D, p-Phenylenediamine, derivs. 108-45-2, 1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine, derivs. 108-46-3, Resorcinol, biological studies 108-46-3D, Resorcinol, derivs. 119-13-1,  $\delta$ -Tocopherol 123-30-8D, p-Aminophenol, derivs. 124-43-6 148-03-8,  $\beta$ -Tocopherol 490-23-3,  $\epsilon$ -Tocopherol 493-35-6,  $\zeta$ 2-Tocopherol 533-31-3, Sesamol 541-15-1, Carnitine 591-27-5D, m-Aminophenol, derivs. 608-25-3, 2-MethylResorcinol 1406-18-4, Vitamin E 1721-51-3,  $\zeta$ 1-Tocopherol 2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 7469-77-4, 2-Methyl-1-naphthol 7556-37-8 7616-22-0,  $\gamma$ -Tocopherol 7722-84-1, Hydrogen peroxide, biological studies 9035-73-8, Oxidase 12001-76-2, Vitamin B 16867-03-1, 2-Amino-3-hydroxypyridine 25711-72-2, 3-Ureido aniline 26021-57-8, 6-Hydroxybenzomorpholine 26455-21-0 70643-19-5 81329-90-0 81892-72-0 85679-78-3, 3,5-DiAmino-2,6-dimethoxypyridine 113973-04-9, Tocopheryl palmitate 149330-25-6 402941-00-8 435275-61-9 435275-62-0 435275-65-3 435275-66-4 435275-67-5 435275-68-6 435275-69-7 435275-70-0 435275-72-2 435275-73-3 435275-74-4 435275-82-4 607355-12-4 **607355-13-5** 607355-16-8 **607355-17-9** 607355-18-0 607355-19-1 607355-20-4 607355-21-5 701975-01-1 701975-04-4 701975-07-7 701975-08-8 701975-09-9 701975-10-2 701975-11-3 701975-12-4 701975-13-5 701975-14-6 **701975-15-7** 701975-16-8 701975-17-9 701975-18-0 701975-19-1 701975-20-4 701975-21-5 701975-22-6 701975-23-7 701975-24-8 701975-25-9 701975-26-0 **701975-27-1** 701975-28-2 **701975-29-3** **701975-30-6** 701975-31-7 701975-32-8 701975-33-9 701975-34-0 701975-35-1  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(**hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)

IT 607355-13-5 607355-17-9 701975-15-7  
 701975-27-1 701975-29-3 701975-30-6  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising phenylenediamine with  
 pyrrolidine ring and vitamin derivative)  
 RN 607355-13-5 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-  
 (trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



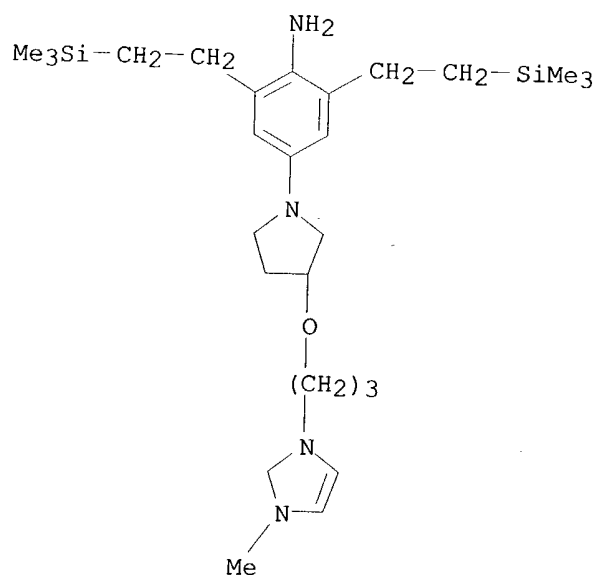
● Cl<sup>-</sup>

RN 607355-17-9 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-  
 (trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

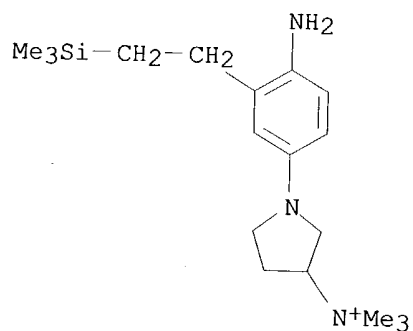
RN 701975-15-7 HCAPLUS  
 CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-  
 3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-27-1 HCAPLUS

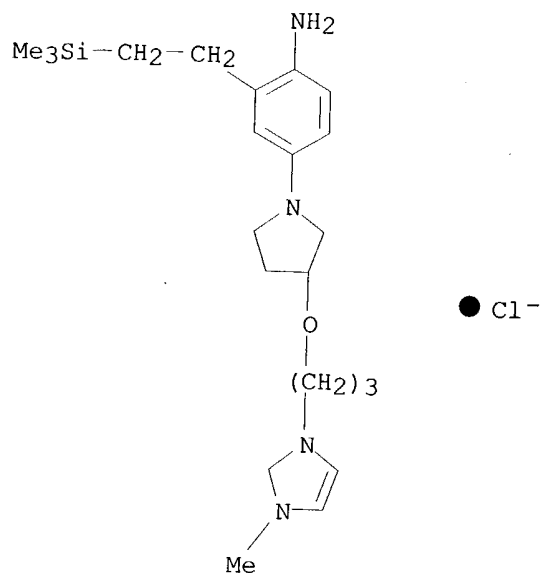
CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



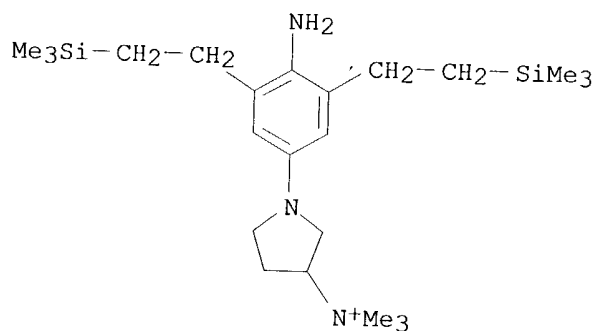
● Cl<sup>-</sup>

RN 701975-29-3 HCAPLUS

CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
 RN 701975-30-6 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 2 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:482171 HCAPLUS  
 DN 141:42543  
 TI **Hair** dyeing compositions comprising a tertiary  
 p-phenylenediamine with a pyrrolidine ring and a polyol ester  
 IN Cotteret, Jean; Lagrange, Alain  
 PA L'oreal, Fr.  
 SO Eur. Pat. Appl., 49 pp.

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

CODEN: EPXXDW

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1428516	A1	20040616	EP 2003-293141	20031212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2848443	A1	20040618	FR 2002-15776	20021213
PRAI	FR 2002-15776	A	20021213		
OS	MARPAT 141:42543				
AB	<p><b>Hair</b> dyeing compns. comprising a tertiary p-phenylenediamine with a pyrrolidine ring and a polyol ester. Thus, a composition contained oleyl alc. 4, oleic acid 5, diglyceryl oleyl ether 4, tetraglyceryl oleyl ether 3.6, ethoxylated amino acid 8, ethoxylated oleylamine 4, ethoxylated decyl ether 2.7, PEG oleate 2.5,, adipic acid 1.3, reducing agents 0.63, sequestrants 1, resorcinol 0.085, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 0.8, 5-N(<math>\beta</math>-hydroxyethyl)amino-2-methylphenol 0.4, perfume qs, ammonia 10, and water qs to 100 g. The above composition was mixed with 6% H2O2 and applied onto <b>hair</b>.</p>				
IC	ICM A61K007-13				
CC	62-3 (Essential Oils and Cosmetics)				
ST	<b>hair</b> dye phenylenediamine pyrrolidine polyol ester				
IT	Phenols, biological studies				
	RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses) (amino; <b>hair</b> dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)				
IT	Surfactants				
	(amphoteric; <b>hair</b> dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)				
IT	Surfactants				
	(anionic; <b>hair</b> dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)				
IT	Polyelectrolytes				
	Surfactants				
	(cationic; <b>hair</b> dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)				
IT	Amines, biological studies				
	RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses) (diamines, aromatic; <b>hair</b> dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)				
IT	Dyes				
	(direct; <b>hair</b> dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)				
IT	<b>Hair</b> preparations				
	(dyes, oxidative; <b>hair</b> dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)				
IT	<b>Hair</b> preparations				
	(dyes; <b>hair</b> dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)				
IT	Carboxylic acids, biological studies				
	RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses) (esters, with polyols; <b>hair</b> dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)				
IT	Human				
	Oxidizing agents				
	Surfactants				
	Thickening agents				

- (**hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)
- IT Bromates  
Ethers, biological studies  
Glycerides, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(**hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)
- IT Surfactants  
(nonionic; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)
- IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(peroxy; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)
- IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(phenolic; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)
- IT Alcohols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(polyhydric, esters; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)
- IT Alcohols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(polyhydric, ethoxylated, esters; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)
- IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxy; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)
- IT Surfactants  
(zwitterionic; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)
- IT 50-70-4D, Sorbitol, esters with carboxylic acids 50-99-7D, Glucose, esters with carboxylic acids 56-81-5, Glycerol, biological studies 57-11-4D, Stearic acid, esters with polyols 57-55-6, Propylene glycol, biological studies 57-55-6D, Propylene glycol, esters with carboxylic acids 64-17-5, Ethanol, biological studies 90-15-3, 1-Naphthol 95-55-6D, o-Aminophenol, derivs. 95-88-5, 4-ChloroResorcinol 106-50-3D, p-Phenylenediamine, derivs. 107-21-1D, Ethylene glycol, esters with carboxylic acids 108-45-2, 1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine, derivs. 108-46-3, Resorcinol, biological studies 108-46-3D, Resorcinol, derivs. 111-60-4, Tegin EGMS-VA 112-80-1D, Oleic acid, esters with polyols 123-30-8D, p-Aminophenol, derivs. 124-43-6 141-22-0D, Ricinoleic acid, esters with polyols 143-07-7D, Lauric acid, esters with polyols 533-31-3, Sesamol 591-27-5D, m-Aminophenol, derivs. 608-25-3, 2-MethylResorcinol 627-83-8, Cutina AGS 2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 7469-77-4, 2-Methyl-1-naphthol 7556-37-8 7722-84-1, Hydrogen peroxide, biological studies 9004-81-3, Polyethylene glycol laurate 9004-96-0, Polyethylene glycol oleate 9005-64-5, Polysorbate 20 9035-73-8, Oxidase 11099-07-3, Glyceryl stearate 16867-03-1, 2-Amino-3-hydroxypyridine 25711-72-2, 3-Ureido aniline 26021-57-8, 6-Hydroxybenzomorpholine 26455-21-0 30399-84-9D, Isostearic acid, esters with polyols 37220-82-9, Glyceryl oleate 57107-97-8, Polyoxyethylene glyceryl oleate 57485-50-4, Polyoxyethylene glyceryl stearate 67167-59-3, Polyethylene glycol stearate 70643-19-5

81329-90-0 81892-72-0 85679-78-3, 3,5-DiAmino-2,6-dimethoxypyridine  
 149330-25-6 150372-93-3, Polyoxyethylene glyceryl laurate 402941-00-8  
 435275-61-9 435275-62-0 435275-65-3 435275-66-4 435275-67-5  
 435275-68-6 435275-69-7 435275-70-0 435275-72-2 435275-73-3  
 435275-74-4 435275-82-4 607355-12-4 **607355-13-5**  
 607355-16-8 **607355-17-9** 607355-18-0 607355-19-1  
 607355-20-4 607355-21-5 701975-01-1 701975-04-4 701975-07-7  
 701975-08-8 701975-09-9 701975-10-2 701975-11-3 701975-12-4  
 701975-13-5 701975-14-6 **701975-15-7** 701975-16-8  
 701975-17-9 701975-18-0 701975-19-1 701975-20-4 701975-21-5  
 701975-22-6 701975-23-7 701975-24-8 701975-25-9 701975-26-0  
**701975-27-1** 701975-28-2 **701975-29-3**  
**701975-30-6** 701975-31-7 701975-32-8 701975-33-9  
 701975-34-0 701975-35-1

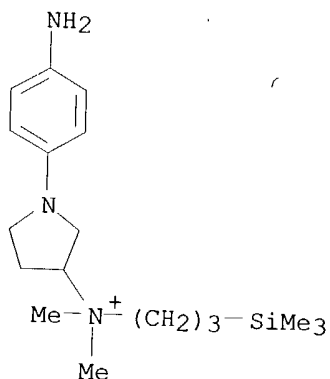
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising cationic phenylenediamine  
 with pyrrolidine ring and polyol ester)

IT **607355-13-5 607355-17-9 701975-15-7**  
**701975-27-1 701975-29-3 701975-30-6**

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising cationic phenylenediamine  
 with pyrrolidine ring and polyol ester)

RN 607355-13-5 HCAPLUS

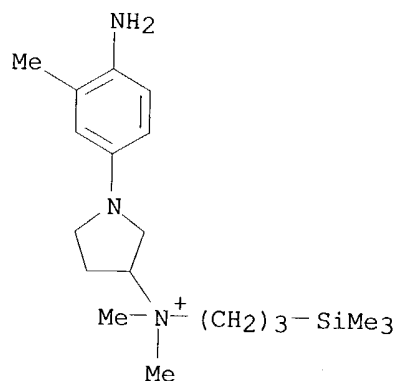
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-  
 (trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-17-9 HCAPLUS

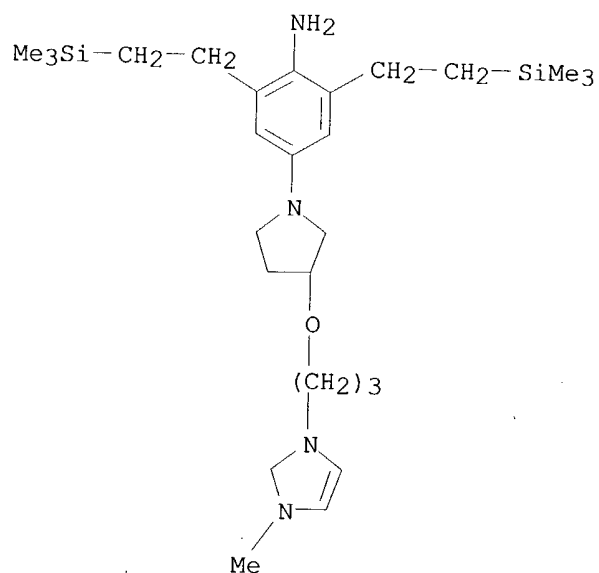
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-  
 (trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-15-7 HCAPLUS

CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

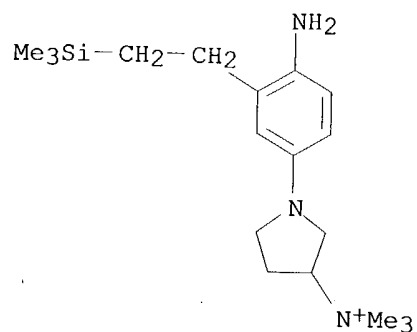


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

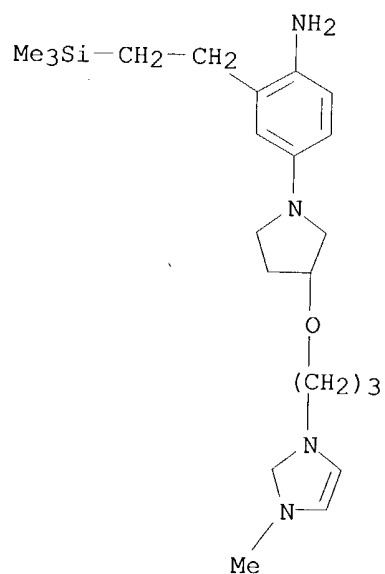
RN 701975-27-1 HCAPLUS

CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

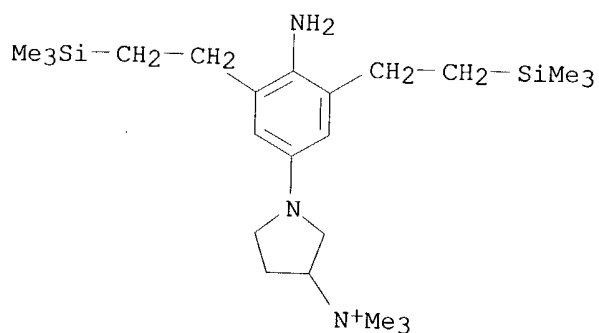
RN 701975-29-3 HCAPLUS  
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-30-6 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)

● Cl<sup>-</sup>

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 3 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:482170 HCAPLUS

DN 141:42542

TI **Hair** dyeing compositions comprising a tertiary cationic  
p-phenylenediamine with a pyrrolidine ring and a surfactant  
IN Cotteret, Jean; Lagrange, Alain

PA L'oreal, Fr.

SO Eur. Pat. Appl., 53 pp.

CODEN: EPXXDW

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1428515	A1	20040616	EP 2003-293140	20031212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2848437	A1	20040618	FR 2002-15770	20021213
PRAI	FR 2002-15770	A	20021213		
OS	MARPAT 141:42542				

AB **Hair** dyeing compns. comprise a tertiary cationic  
p-phenylenediamine with a pyrrolidine ring and a surfactant such as a  
glyceryl ether. Thus, a composition contained oleyl alc. 6, oleic acid 3,  
diglyceryl oleyl ether 6, hexaglyceryl oleyl ether 6, diethylaminopropyl  
laurylammoniosuccinamate sodium salt 3, ethoxylated oleylamine 7,  
ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, hexylene  
glycol 20, reducing agents 0.915, sequestrants 1, resorcinol 0.085,  
[1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 1.0,  
2-methyl-5-aminophenol 0.5, perfume qs, ammonia 10.2, and water qs to 100  
g. The above composition was mixed with 6% H2O2 and applied onto **hair**

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

ST **hair** dye phenylenediamine pyrrolidine surfactant

IT Phenols, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(amino; **hair** dyeing compns. comprising cationic

- IT Surfactants
  - (phenylenediamine with pyrrolidine ring and surfactant)
  - (amphoteric; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)
- IT Surfactants
  - (anionic; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)
- IT Polyelectrolytes
  - Surfactants
    - (cationic; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)
- IT Amines, biological studies
  - RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
  - (diamines, aromatic; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)
- IT Dyes
  - (direct; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)
- IT **Hair** preparations
  - (dyes, oxidative; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)
- IT **Hair** preparations
  - (dyes; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)
- IT Carboxylic acids, biological studies
  - RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
  - (ethoxylated; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)
- IT Human
  - Oxidizing agents
  - Surfactants
  - Thickening agents
    - (**hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)
- IT Bromates
  - Ethers, biological studies
  - RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
  - (**hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)
- IT Surfactants
  - (nonionic; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)
- IT Carboxylic acids, biological studies
  - RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
  - (peroxy; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)
- IT Amines, biological studies
  - RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
  - (phenolic; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)
- IT Carboxylic acids, biological studies
  - RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
  - (salts, ethoxylated; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)
- IT Carboxylic acids, biological studies
  - RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
  - (salts, peroxy; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)
- IT Surfactants

(zwitterionic; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)

IT 56-81-5, Glycerol, biological studies 56-81-5D, Glycerol, alkyl ethers  
 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol,  
 biological studies 90-15-3, 1-Naphthol 95-55-6D, o-Aminophenol,  
 derivs. 95-88-5, 4-ChloroResorcinol 106-50-3D, p-Phenylenediamine,  
 derivs. 108-45-2, 1,3-Diaminobenzene, biological studies 108-45-2D,  
 m-Phenylenediamine, derivs. 108-46-3, Resorcinol, biological studies  
 108-46-3D, Resorcinol, derivs. 123-30-8D, p-Aminophenol, derivs.  
 124-43-6 533-31-3, Sesamol 591-27-5D, m-Aminophenol, derivs.  
 608-25-3, 2-MethylResorcinol 2380-86-1, 6-Hydroxyindole 2380-94-1,  
 4-Hydroxyindole 7469-77-4, 2-Methyl-1-naphthol 7556-37-8 7722-84-1,  
 Hydrogen peroxide, biological studies 9035-73-8, Oxidase 16867-03-1,  
 2-Amino-3-hydroxypyridine 25711-72-2, 3-Ureido aniline 26021-57-8,  
 6-Hydroxybenzomorpholine 26455-21-0 70643-19-5 75278-96-5,  
 Diglycerol monolauryl ether 75345-50-5, Glycerol monododecyl ether  
 79665-92-2 81329-90-0 81892-72-0 85679-78-3, 3,5-DiAmino-2,6-  
 dimethoxypyridine 95012-79-6 112708-25-5, Tetraglycerol monooleyl  
 ether 149330-25-6 182374-74-9, Hexaglycerol monooleyl ether  
 402941-00-8 435275-61-9 435275-62-0 435275-65-3 435275-66-4  
 435275-67-5 435275-68-6 435275-69-7 435275-70-0 435275-72-2  
 435275-73-3 435275-74-4 435275-82-4 607355-12-4 **607355-13-5**  
 607355-16-8 **607355-17-9** 607355-18-0 607355-19-1  
 607355-20-4 607355-21-5 701975-01-1 701975-04-4 701975-07-7  
 701975-08-8 701975-09-9 701975-10-2 701975-11-3 701975-12-4  
 701975-13-5 701975-14-6 **701975-15-7** 701975-16-8  
 701975-17-9 701975-18-0 701975-19-1 701975-20-4 701975-21-5  
 701975-22-6 701975-23-7 701975-24-8 701975-25-9 701975-26-0  
**701975-27-1** 701975-28-2 **701975-29-3**  
**701975-30-6** 701975-31-7 701975-32-8 701975-33-9  
 701975-34-0 701975-35-1

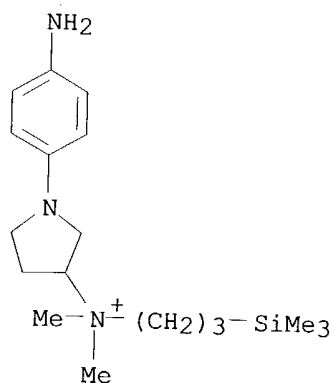
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (**hair** dyeing compns. comprising cationic phenylenediamine  
 with pyrrolidine ring and surfactant)

IT **607355-13-5 607355-17-9 701975-15-7**  
**701975-27-1 701975-29-3 701975-30-6**

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (**hair** dyeing compns. comprising cationic phenylenediamine  
 with pyrrolidine ring and surfactant)

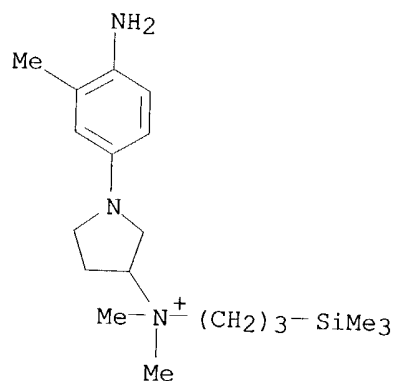
RN 607355-13-5 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-  
 (trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



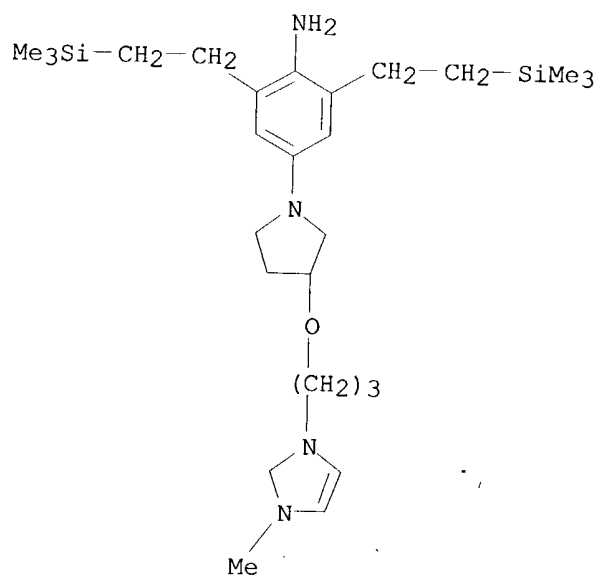
●  $\text{Cl}^-$

RN 607355-17-9 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

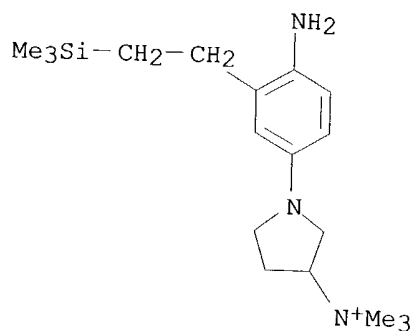


●  $\text{Cl}^-$

RN 701975-15-7 HCAPLUS  
 CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

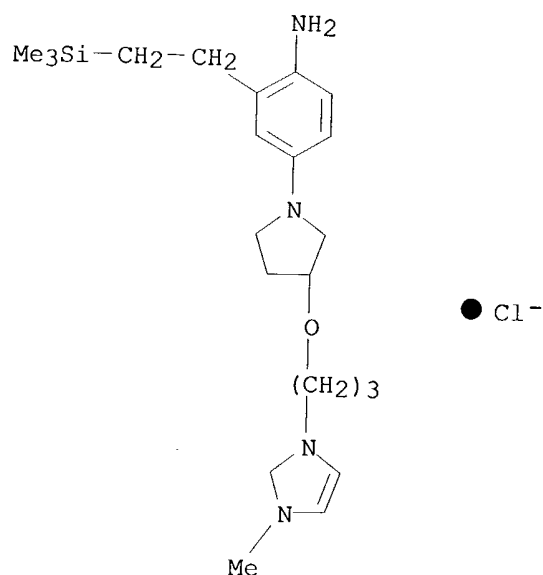


ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
 RN 701975-27-1 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)

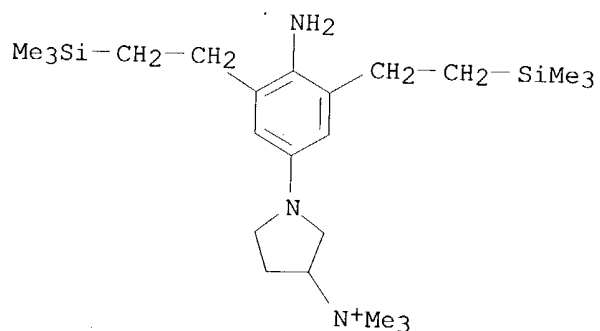


● Cl<sup>-</sup>

RN 701975-29-3 HCAPLUS  
 CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
 RN 701975-30-6 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 4 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:482169 HCAPLUS  
 DN 141:42541  
 TI **Hair** dyeing compositions comprising a tertiary  
 p-phenylenediamine with a pyrrolidine ring and a benzomorpholine coupler  
 IN Cottard, Francois; Rondeau, Christine  
 PA L'oreal, Fr.  
 SO Eur. Pat. Appl., 53 pp.

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

CODEN: EPXXDW

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1428514	A1	20040616	EP 2003-293139	20031212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2848441	A1	20040618	FR 2002-15774	20021213
PRAI	FR 2002-15774	A	20021213		
AB	<b>Hair</b> dyeing compns. comprise a tertiary p-phenylenediamine with a pyrrolidine ring and a benzomorpholine coupler. Thus, a composition contained oleyl alc. 6, oleic acid 3, polyglyceryl oleyl ether 12, diethylaminopropyl laurylamino succinamate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, propylene glycol 20, reducing agents 0.915, sequestrants 1, p-aminophenol 0.2, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 0.3, N,N-(2-Hydroxyethyl)-p-phenylenediamine sulfate 0.3, 6-hydroxybenzomorpholine 0.45, perfume qs, ammonia 10.2, and water qs to 100 g.				
IC	ICM A61K007-13				
CC	62-3 (Essential Oils and Cosmetics)				
ST	<b>hair</b> dye phenylenediamine pyrrolidine benzomorpholine coupler				
IT	Phenols, biological studies				
	RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)				
	(amino; <b>hair</b> dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)				
IT	Surfactants				
	(amphoteric; <b>hair</b> dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)				
IT	Surfactants				
	(anionic; <b>hair</b> dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)				
IT	Polyelectrolytes				
	Surfactants				
	(cationic; <b>hair</b> dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)				
IT	Amines, biological studies				
	RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)				
	(diamines, aromatic; <b>hair</b> dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)				
IT	Dyes				
	(direct; <b>hair</b> dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)				
IT	<b>Hair</b> preparations				
	(dyes, oxidative; <b>hair</b> dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)				
IT	<b>Hair</b> preparations				
	(dyes; <b>hair</b> dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)				
IT	Human				
	Oxidizing agents				
	Surfactants				
	Thickening agents				
	(hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)				
IT	Bromates				
	Ethers, biological studies				

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising cationic phenylenediamine  
with pyrrolidine ring and benzomorpholine coupler)

IT Surfactants  
(nonionic; hair dyeing compns. comprising cationic  
phenylenediamine with pyrrolidine ring and benzomorpholine coupler)

IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
( peroxy; hair dyeing compns. comprising cationic  
phenylenediamine with pyrrolidine ring and benzomorpholine coupler)

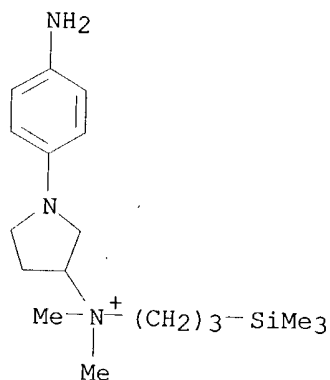
IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(phenolic; hair dyeing compns. comprising cationic  
phenylenediamine with pyrrolidine ring and benzomorpholine coupler)

IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxy; hair dyeing compns. comprising cationic  
phenylenediamine with pyrrolidine ring and benzomorpholine coupler)

IT Surfactants  
(zwitterionic; hair dyeing compns. comprising cationic  
phenylenediamine with pyrrolidine ring and benzomorpholine coupler)

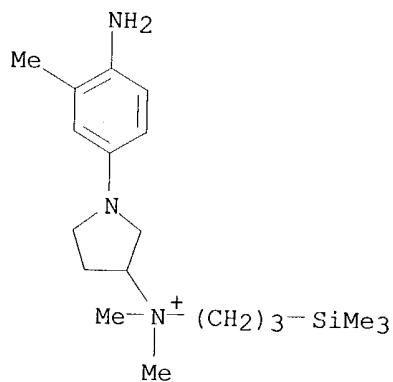
IT 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol,  
biological studies 64-17-5, Ethanol, biological studies 90-15-3,  
1-Naphthol 95-55-6D, o-Aminophenol, derivs. 95-88-5,  
4-Chlororesorcinol 106-50-3D, p-Phenylenediamine, derivs. 108-45-2;  
1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine,  
derivs. 108-46-3, Resorcinol, biological studies 108-46-3D,  
Resorcinol, derivs. 123-30-8, p-Aminophenol 123-30-8D, p-Aminophenol,  
derivs. 124-43-6 150-75-4, N-Methyl-4-aminophenol 399-95-1,  
4-Amino-3-fluorophenol 399-96-2, 4-Amino-2-fluorophenol 533-31-3,  
Sesamol 591-27-5D, m-Aminophenol, derivs. 608-25-3, 2-Methylresorcinol  
1125-35-5 1125-89-9 2380-84-9, 1H-Indol-7-ol 2380-86-1,  
6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 2835-96-3,  
4-Amino-2-methylphenol 2835-99-6, 4-Amino-3-methylphenol 7469-77-4,  
2-Methyl-1-naphthol 7556-37-8, 4-Hydroxy-N-methylindole 7575-35-1  
7722-84-1, Hydrogen peroxide, biological studies 9035-73-8, Oxidase  
15050-03-0 16867-03-1, 2-Amino-3-hydroxypyridine 24370-70-5  
24370-78-3 25711-72-2, 3-Ureido aniline 26011-57-4 26021-57-8  
26438-50-6 26455-21-0 29785-47-5, 4-Amino-2-methoxymethylphenol  
36729-23-4 40047-23-2 54584-22-4 54584-23-5 58262-44-5  
70643-19-5 79352-72-0, 4-Amino-2-aminomethylphenol 81329-90-0  
81892-72-0 85679-78-3, 3,5-Diamino-2,6-dimethoxypyridine 104333-09-7,  
4-Amino-2-hydroxymethylphenol 104535-37-7 110952-46-0 112332-93-1  
112332-97-5 130570-60-4 130570-63-7 149330-25-6 168202-61-7,  
4-Amino-3-hydroxymethylphenol 402941-00-8 435275-61-9 435275-62-0  
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701975-32-8 701975-33-9 701975-34-0 701975-35-1 704879-73-2  
704879-74-3 704879-75-4 704879-76-5  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising cationic phenylenediamine

with pyrrolidine ring and benzomorpholine coupler)  
 IT 607355-13-5 607355-17-9 701975-15-7  
 701975-27-1 701975-29-3 701975-30-6  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising cationic phenylenediamine  
 with pyrrolidine ring and benzomorpholine coupler)  
 RN 607355-13-5 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-  
 (trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



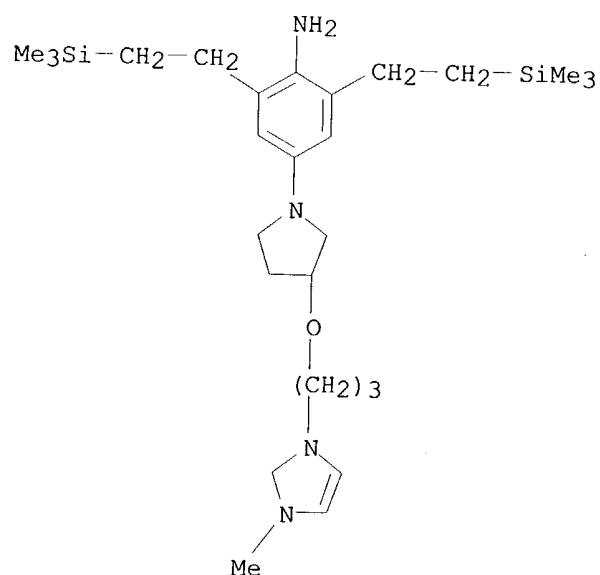
● Cl<sup>-</sup>

RN 607355-17-9 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-  
 (trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

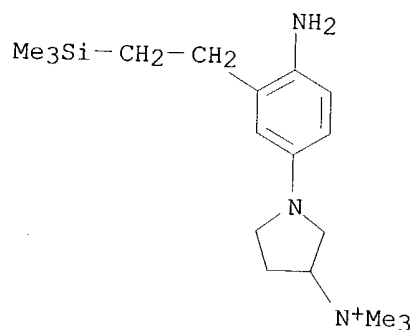


● Cl<sup>-</sup>

RN 701975-15-7 HCAPLUS  
 CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-  
 3-pyrrolidinyl]oxylpropyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

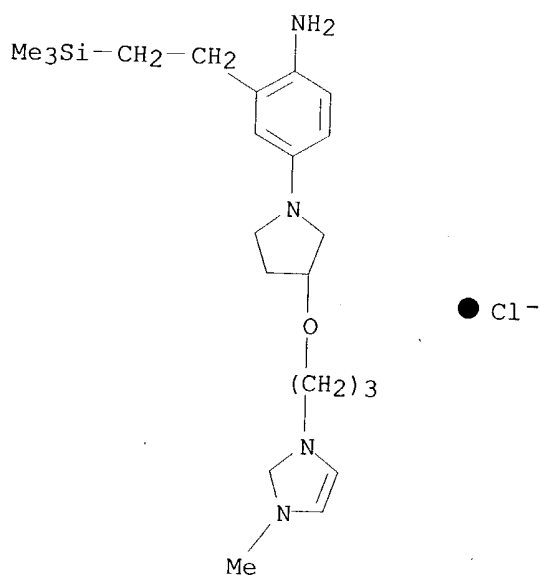


ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
 RN 701975-27-1 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)

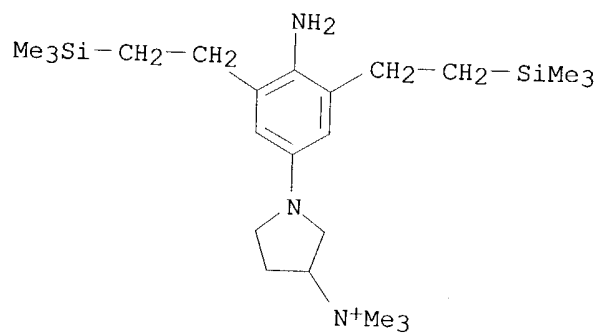


● Cl<sup>-</sup>

RN 701975-29-3 HCAPLUS  
 CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
 RN 701975-30-6 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 5 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:482168 HCAPLUS  
 DN 141:42540  
 TI **Hair** dyeing compositions comprising a tertiary  
 p-phenylenediamine with a pyrrolidine ring and a opacifying or pearlescent  
 agent  
 IN Cotteret, Jean; Lagrange, Alain  
 PA L'oreal, Fr.

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

SO Eur. Pat. Appl., 50 pp.

CODEN: EPXXDW

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1428513	A1	20040616	EP 2003-293138	20031212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2848440	A1	20040618	FR 2002-15773	20021213
PRAI	FR 2002-15773	A	20021213		
OS	MARPAT 141:42540				

AB **Hair** dyeing compns. comprise a tertiary p-phenylenediamine with a pyrrolidine ring and a opacifying or pearlescent agent. Thus, a composition contained Nafol 20-22 3, Marlipal-2022/300 1, ethoxylated stearyl alc. 6.25, oleic acid 2.6, carbopol-980 0.6, Aculyne-44 4, Flonac FS20C 0.25, coco fatty acid monoisopropanolamide 3, cationic polymer 4, propylene glycol 6, sodium metasilicate 0.71, EDTA 0.2, tert-butylhydroquinone 0.3, 3-[1-(4-aminophenyl)pyrrolidin-3-yl]-1-methyl-3H-1-imidazolium chloride 0.8, 5-N( $\beta$ -hydroxyethylamino-2-methylphenol) 0.4, monoethanolamine 1, perfume qs, ammonia 11, and water qs to 100 g. The above composition was mixed with 6% H<sub>2</sub>O<sub>2</sub> and applied onto **hair**.

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

ST **hair** dye phenylenediamine pyrrolidine opacifying pearlescent agent

IT Phenols, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(amino; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)

IT Surfactants

(amphoteric; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)

IT Surfactants

(anionic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)

IT Polyelectrolytes

Surfactants

(cationic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)

IT Amines, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(diamines, aromatic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)

IT Dyes

(direct; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)

IT **Hair** preparations

(dyes, oxidative; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)

IT **Hair** preparations

(dyes; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)

IT Opacifiers

Oxidizing agents

Particle size distribution

- Pearly materials
- Surfactants
- Thickening agents
  - (**hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)
- IT Bromates
- Ethers, biological studies
- Fluoropolymers, biological studies
- Polyesters, biological studies
- Polysiloxanes, biological studies
- RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
  - (**hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)
- IT Surfactants
  - (nonionic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)
- IT Carboxylic acids, biological studies
  - RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
    - (peroxy; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)
- IT Amines, biological studies
  - RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
    - (phenolic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)
- IT Alcohols, biological studies
  - RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
    - (polyhydric; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)
- IT Carboxylic acids, biological studies
  - RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
    - (salts, peroxy; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)
- IT Surfactants
  - (zwitterionic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)
- IT 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol, biological studies 90-15-3,  $\alpha$ -Naphthol 95-55-6D, o-Aminophenol, derivs. 95-88-5, 4-ChloroResorcinol 106-50-3D, p-Phenylenediamine, derivs. 108-45-2, 1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine, derivs. 108-46-3, Resorcinol, biological studies 108-46-3D, Resorcinol, derivs. 123-30-8D, p-Aminophenol, derivs. 124-43-6 533-31-3, Sesamol 591-27-5D, m-Aminophenol, derivs. 608-25-3, 2-MethylResorcinol 2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 7469-77-4, 2-Methyl-1-naphthol 7556-37-8, 4-Hydroxy-N-methylindole 7631-86-9, Silica, biological studies 7722-84-1, Hydrogen peroxide, biological studies 9002-84-0, Teflon 9004-73-3, Poly[oxy(methylsilylene)] 9012-76-4, Chitosan 9016-00-6, Polydimethyl siloxane 9035-73-8, Oxidase 13463-67-7, Titanium oxide, biological studies 16867-03-1, 2-Amino-3-hydroxypyridine 25711-72-2, 3-Ureido aniline 26021-57-8, 6-Hydroxybenzomorpholine 26455-21-0 31900-57-9, Polydimethyl siloxane 49718-23-2, Methyl hydrogen silanediol homopolymer 70643-19-5 81329-90-0 81892-72-0 85679-78-3, 3,5-DiAmino-2,6-dimethoxypyridine 136723-98-3 139489-46-6 149330-25-6 402941-00-8 435275-61-9 435275-62-0 435275-65-3 435275-66-4 435275-67-5 435275-68-6 435275-69-7 435275-70-0 435275-72-2 435275-73-3 435275-74-4 435275-82-4 607355-12-4

607355-13-5 607355-16-8 607355-17-9 607355-18-0  
 607355-19-1 607355-20-4 607355-21-5 701975-01-1 701975-04-4  
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 701975-12-4 701975-13-5 701975-14-6 701975-15-7  
 701975-16-8 701975-17-9 701975-18-0 701975-19-1 701975-20-4  
 701975-21-5 701975-22-6 701975-23-7 701975-24-8 701975-25-9  
 701975-26-0 701975-27-1 701975-28-2 701975-29-3  
 701975-30-6 701975-31-7 701975-32-8 701975-33-9  
 701975-34-0 701975-35-1

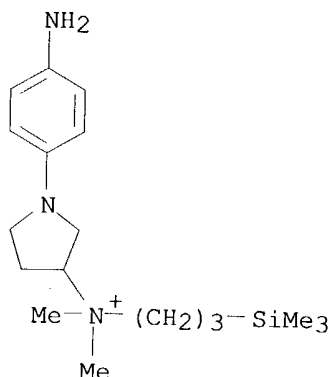
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising phenylenediamine with  
 pyrrolidine ring and opacifying or pearlescent agents)

IT 607355-13-5 607355-17-9 701975-15-7  
 701975-27-1 701975-29-3 701975-30-6

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising phenylenediamine with  
 pyrrolidine ring and opacifying or pearlescent agents)

RN 607355-13-5 HCAPLUS

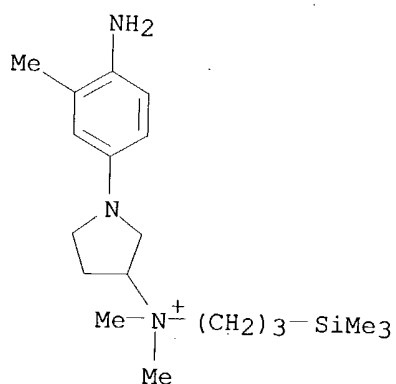
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

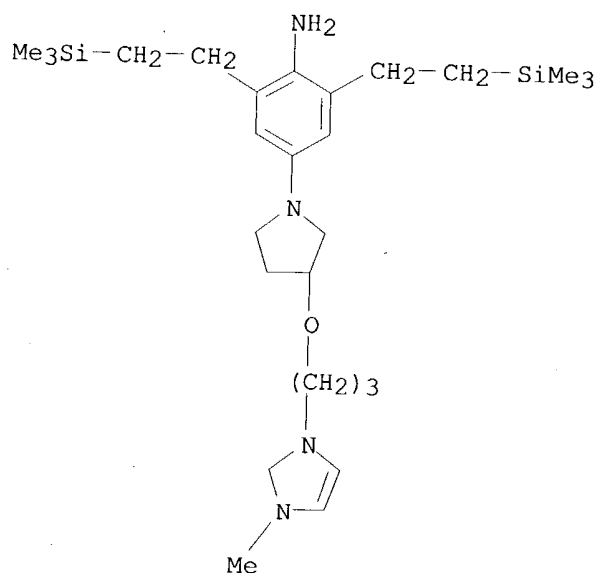
RN 607355-17-9 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

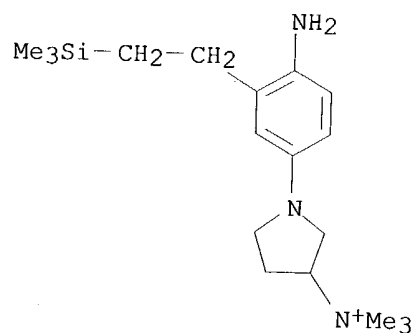
RN 701975-15-7 HCAPLUS  
 CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

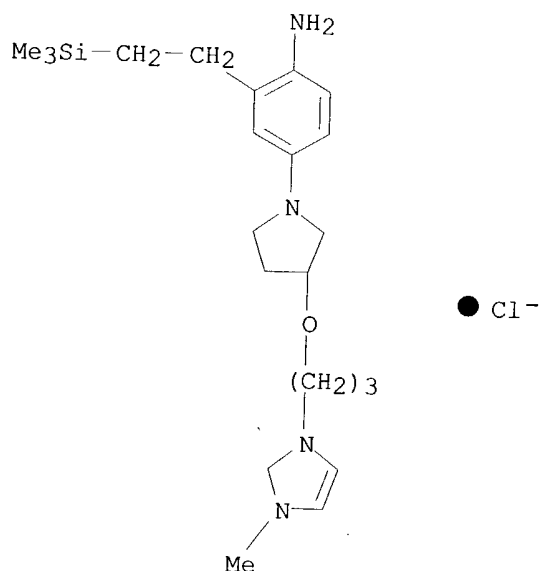
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-27-1 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

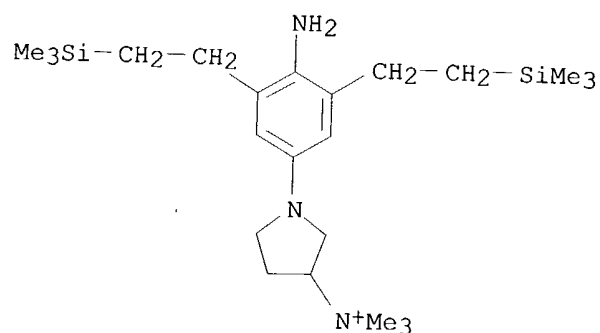
RN 701975-29-3 HCAPLUS  
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-30-6 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl-

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 6 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:482167 HCAPLUS  
DN 141:42539  
TI **Hair** dyeing compositions comprising a tertiary cationic  
p-phenylenediamine with a pyrrolidine ring and a p-aminophenol  
IN Cotteret, Jean; Lagrange, Alain  
PA L'oreal, Fr.  
SO Eur. Pat. Appl., 51 pp.  
CODEN: EPXXDW  
DT Patent  
LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1428512	A1	20040616	EP 2003-293137	20031212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2848436	A1	20040618	FR 2002-15769	20021213
PRAI	FR 2002-15769	A	20021213		
OS	MARPAT 141:42539				

AB **Hair** dyeing compns. comprise a tertiary cationic p-phenylenediamine with a pyrrolidine ring and a p-aminophenol. Thus, a composition contained oleyl alc. 6, oleic acid 3, polyglyceryl oleyl ether 12, diethylaminopropyl laurylaminosuccinamate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, hexylene glycol 20, reducing agents 0.915, sequestrants 1, a p-aminophenol 0.2, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 0.8, 2-methyl-5-aminophenol 0.5, perfume qs, ammonia 10.2, and water qs to 100 g. The above composition was mixed with 6% H2O2 and applied onto **hair**.

IC ICM A61K007-13  
CC 62-3 (Essential Oils and Cosmetics)  
ST **hair** dye phenylenediamine pyrrolidine aminophenol  
IT Phenols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(amino; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)

- IT Surfactants  
(amphoteric; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)
- IT Surfactants  
(anionic; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)
- IT Polyelectrolytes  
Surfactants  
(cationic; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)
- IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(diamines, aromatic; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)
- IT Dyes  
(direct; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)
- IT **Hair** preparations  
(dyes, oxidative; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)
- IT **Hair** preparations  
(dyes; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)
- IT Human  
Oxidizing agents  
Surfactants  
Thickening agents  
(**hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)
- IT Bromates  
Ethers, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(**hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)
- IT Surfactants  
(nonionic; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)
- IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(peroxy; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)
- IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(phenolic; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)
- IT Alcohols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(polyhydric; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)
- IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxy; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)
- IT Surfactants  
(zwitterionic; **hair** dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)
- IT 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol, biological studies 90-15-3, 1-Naphthol 95-55-6D, o-Aminophenol, derivs. 95-88-5,

4-ChloroResorcinol 106-50-3D, p-Phenylenediamine, derivs. 108-45-2,  
 1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine,  
 derivs. 108-46-3, Resorcinol, biological studies 108-46-3D,  
 Resorcinol, derivs. 123-30-8D, p-Aminophenol, derivs. 124-43-6  
 533-31-3, Sesamol 591-27-5D, m-Aminophenol, derivs. 608-25-3,  
 2-MethylResorcinol 2380-86-1, 6-Hydroxyindole 2380-94-1,  
 4-Hydroxyindole 3964-52-1, 2-Chloro-4-aminophenol 7469-77-4,  
 2-Methyl-1-naphthol 7556-37-8 7722-84-1, Hydrogen peroxide, biological  
 studies 9035-73-8, Oxidase 16867-03-1, 2-Amino-3-hydroxypyridine  
 25711-72-2, 3-Ureido aniline 26021-57-8, 6-Hydroxybenzomorpholine  
 26455-21-0 63969-46-0 70643-19-5 81329-90-0 81892-72-0  
 85679-78-3, 3,5-DiAmino-2,6-dimethoxypyridine 149330-25-6 402941-00-8  
 435275-61-9 435275-62-0 435275-65-3 435275-66-4 435275-67-5  
 435275-68-6 435275-69-7 435275-70-0 435275-72-2 435275-73-3  
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 701975-13-5 701975-14-6 **701975-15-7** 701975-16-8  
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 701975-22-6 701975-23-7 701975-24-8 701975-25-9 701975-26-0  
**701975-27-1** 701975-28-2 **701975-29-3**  
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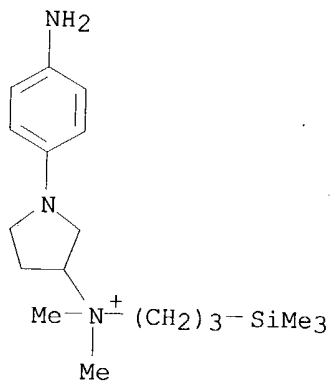
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising cationic phenylenediamine  
 with pyrrolidine ring and aminophenol)

IT **607355-13-5 607355-17-9 701975-15-7**  
**701975-27-1 701975-29-3 701975-30-6**

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising cationic phenylenediamine  
 with pyrrolidine ring and aminophenol)

RN 607355-13-5 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-  
 (trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

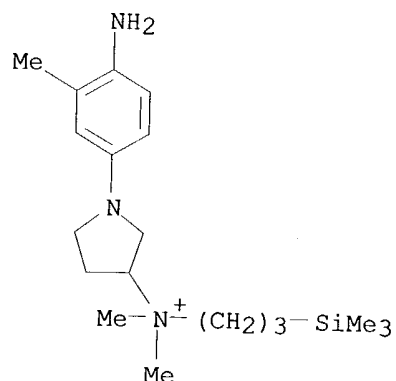


● Cl<sup>-</sup>

RN 607355-17-9 HCAPLUS

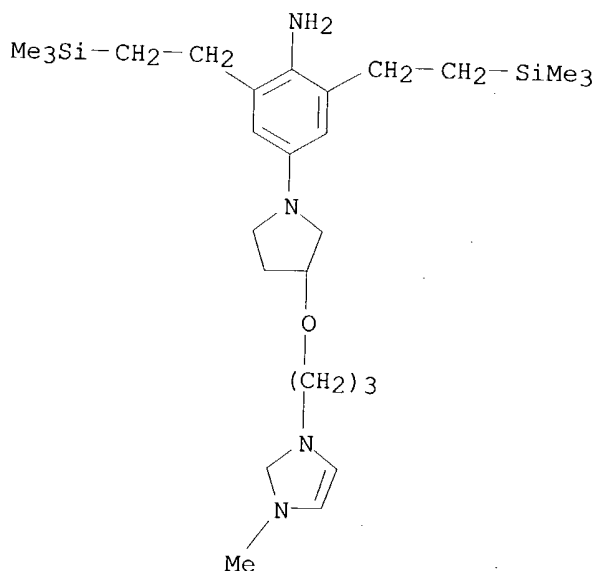
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-

(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

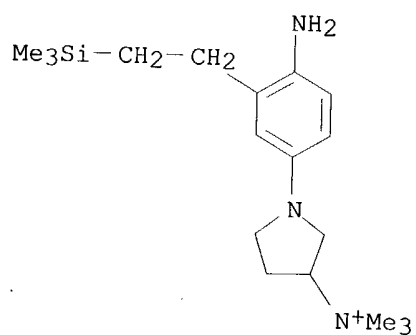
RN 701975-15-7 HCAPLUS  
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

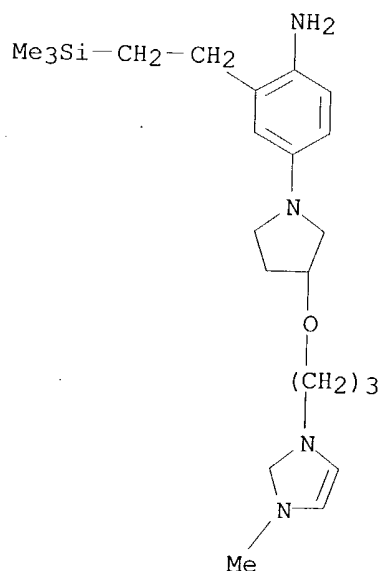
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-27-1 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-29-3 HCAPLUS  
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

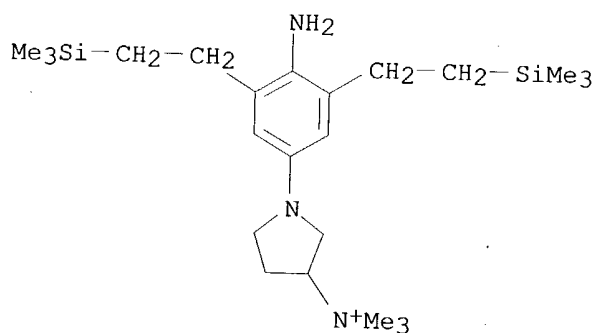


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-30-6 HCAPLUS

CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 7 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:482166 HCAPLUS  
DN 141:42538  
TI **Hair** dyeing compositions comprising a tertiary  
p-phenylenediamine with a pyrrolidine ring and a cationic polymer  
IN Cotteret, Jean; Lagrange, Alain  
PA L'oreal, Fr.  
SO Eur. Pat. Appl., 49 pp.  
CODEN: EPXXDW  
DT Patent  
LA French  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1428511	A1	20040616	EP 2003-293136	20031212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2848432	A1	20040618	FR 2002-15765	20021213
PRAI	FR 2002-15765	A	20021213		
OS	MARPAT 141:42538				

AB **Hair** dyeing comps. comprise a tertiary p-phenylenediamine with a pyrrolidine ring and a cationic polymer. Thus, a composition contained oleic acid 9, polyglyceryl oleyl ether 12, diethylaminopropyl laurylamino succinate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, hexylene glycol 20, reducing agents 0.915, sequestrants 1, resorcinol 0.085, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 1.0, 2-methyl-5-aminophenol 0.5, perfume qs, ammonia 10.2, and water qs to 100 g. The above composition was mixed with 6% H<sub>2</sub>O<sub>2</sub> and applied onto **hair**

IC ICM A61K007-13  
CC 62-3 (Essential Oils and Cosmetics)  
ST **hair** dye phenylenediamine pyrrolidine cationic polymer  
IT Phenols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(amino; **hair** dyeing comps. comprising phenylenediamine with pyrrolidine ring and cationic polymer)

- IT Surfactants  
(amphoteric; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)
- IT Surfactants  
(anionic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)
- IT Polyelectrolytes  
Surfactants  
(cationic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)
- IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(diamines, aromatic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)
- IT **Hair** preparations  
(dyes, oxidative; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)
- IT **Hair** preparations  
(dyes; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)
- IT Oxidizing agents  
Surfactants  
Thickening agents  
(**hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)
- IT Bromates  
Ethers, biological studies  
Ionene polymers  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(**hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)
- IT Surfactants  
(nonionic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)
- IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(peroxy; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)
- IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(phenolic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)
- IT Quaternary ammonium compounds, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(polymers; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)
- IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxy; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)
- IT Surfactants  
(zwitterionic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)
- IT 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol, biological studies 90-15-3,  $\alpha$ -Naphthol 95-55-6D, o-Aminophenol, derivs. 95-88-5, 4-ChloroResorcinol 106-50-3D, p-Phenylenediamine, derivs. 108-45-2, 1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine, derivs. 108-46-3, Resorcinol, biological studies 108-46-3D,

Resorcinol, derivs. 123-30-8D, p-Aminophenol, derivs. 124-43-6  
 533-31-3, Sesamol 591-27-5D, m-Aminophenol, derivs. 608-25-3,  
 2-MethylResorcinol 2380-86-1, 6-Hydroxyindole 2380-94-1,  
 4-Hydroxyindole 7469-77-4, 2-Methyl-1-naphthol 7556-37-8,  
 4-Hydroxy-N-methylindole 7722-84-1, Hydrogen peroxide, biological  
 studies 9035-73-8, Oxidase 16867-03-1, 2-Amino-3-hydroxypyridine  
 25711-72-2, 3-Ureido aniline 26021-57-8, 6-Hydroxybenzomorpholine  
 26455-21-0 67034-33-7 68393-49-7, Mexomer PO 70643-19-5 81329-90-0  
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 701975-04-4 701975-07-7 701975-08-8 701975-09-9 701975-10-2  
 701975-11-3 701975-12-4 701975-13-5 701975-14-6 **701975-15-7**  
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 701975-21-5 701975-22-6 701975-23-7 701975-24-8 701975-25-9  
 701975-26-0 **701975-27-1** 701975-28-2 **701975-29-3**  
**701975-30-6** 701975-31-7 701975-32-8 701975-33-9  
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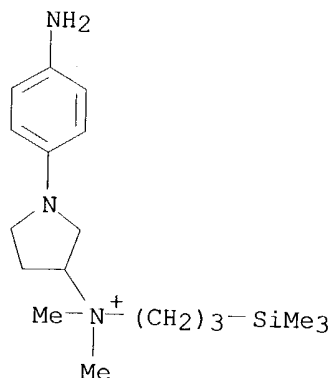
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising phenylenediamine with  
 pyrrolidine ring and cationic polymer)

IT **607355-13-5 607355-17-9 701975-15-7**  
**701975-27-1 701975-29-3 701975-30-6**

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising phenylenediamine with  
 pyrrolidine ring and cationic polymer)

RN 607355-13-5 HCAPLUS

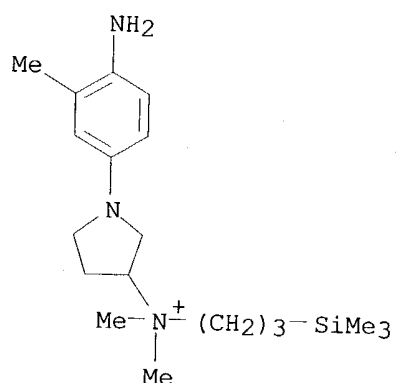
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-  
 (trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

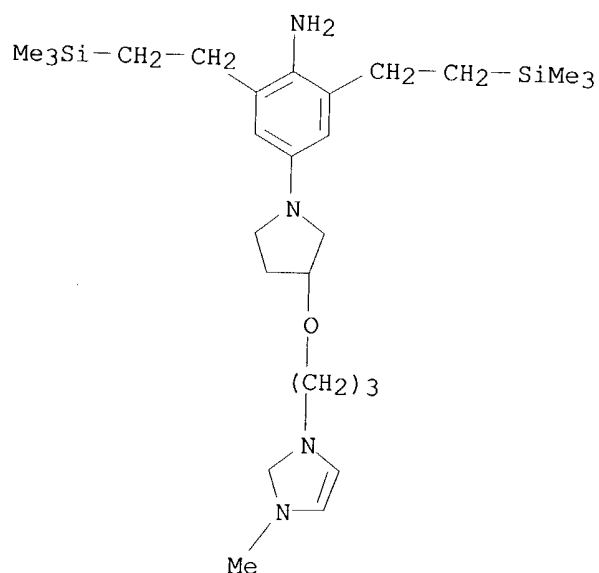
RN 607355-17-9 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-  
 (trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

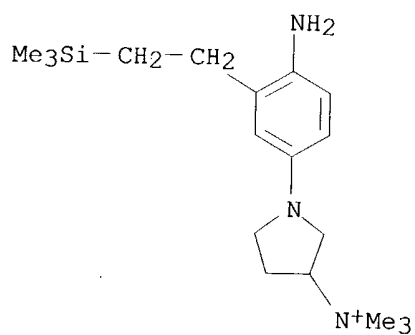
RN 701975-15-7 HCAPLUS  
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

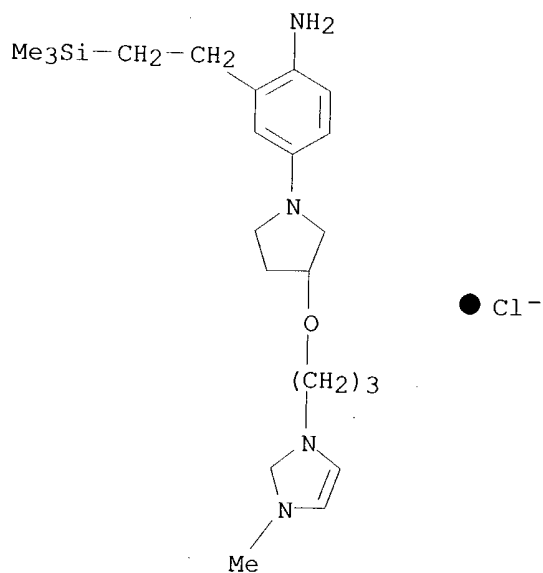
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-27-1 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

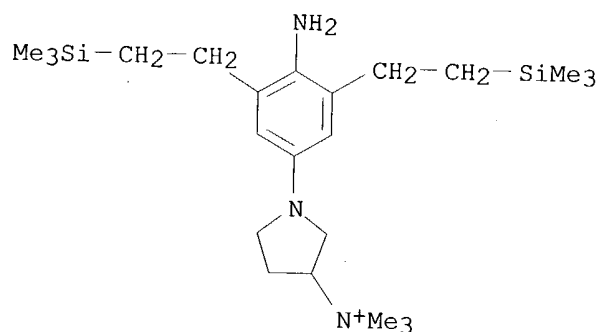
RN 701975-29-3 HCAPLUS  
 CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-30-6 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 8 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:482165 HCAPLUS  
DN 141:59175  
TI **Hair** dyeing compositions comprising a tertiary  
p-phenylenediamine with a pyrrolidine ring and a heterocyclic coupler or a  
hydroxybenzamide  
IN Cotteret, Jean; Lagrange, Alain  
PA L'oreal, Fr.  
SO Eur. Pat. Appl., 59 pp.  
CODEN: EPXXDW  
DT Patent  
LA French  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1428510	A1	20040616	EP 2003-293135	20031212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2848434	A1	20040618	FR 2002-15767	20021213
PRAI	FR 2002-15767	A	20021213		
OS	MARPAT 141:59175				

AB **Hair** dyeing compns. comprise a tertiary p-phenylenediamine with a pyrrolidine ring and a heterocyclic coupler or a hydroxybenzamide. Thus, a composition contained oleyl alc. 6, oleic acid 3, polyglyceryl oleyl ether 12, diethylaminopropyl laurylamino succinamate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, hexylene glycol 20, reducing agents 0.915, sequestrants 1, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 0.8, 6-methoxy-2,3-diaminopyridine 0.5, perfume qs, ammonia 10.2, and water qs to 100 g. The above composition was mixed with 6% H2O2 and applied onto **hair**.

IC ICM A61K007-13  
CC 62-3 (Essential Oils and Cosmetics)  
ST **hair** dye phenylenediamine pyrrolidine heterocyclic coupler; hydroxybenzamide **hair** dye phenylenediamine pyrrolidine  
IT Phenols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

- (amino; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)
- IT Surfactants
  - (amphoteric; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)
- IT Surfactants
  - (anionic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)
- IT Polyelectrolytes
  - Surfactants
    - (cationic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)
- IT Amines, biological studies
  - RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
    - (diamines, aromatic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)
- IT Dyes
  - (direct; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)
- IT **Hair** preparations
  - (dyes, oxidative; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)
- IT **Hair** preparations
  - (dyes; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)
- IT Oxidizing agents
  - Surfactants
    - Thickening agents
      - (**hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)
- IT Bromates
  - Ethers, biological studies
    - RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
      - (**hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)
- IT Surfactants
  - (nonionic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)
- IT Carboxylic acids, biological studies
  - RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
    - (peroxy; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)
- IT Amines, biological studies
  - RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
    - (phenolic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)
- IT Carboxylic acids, biological studies
  - RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
    - (salts, peroxy; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)
- IT Surfactants
  - (zwitterionic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)
- IT 55-21-0D, Benzamide, derivs. 56-81-5, Glycerol, biological studies  
57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol,

biological studies 90-15-3,  $\alpha$ -Naphthol 90-52-8,  
 8-Amino-6-methoxyquinoline 95-55-6D, o-Aminophenol, derivs. 95-88-5,  
 4-ChloroResorcinol 106-50-3D, p-Phenylenediamine, derivs. 108-45-2,  
 1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine,  
 derivs. 108-46-3, Resorcinol, biological studies 108-46-3D,  
 Resorcinol, derivs. 123-30-8D, p-Aminophenol, derivs. 124-43-6  
 251-62-7D, 5H-Pyrrolo[1,2-c]imidazole, derivs. 251-80-9,  
 1H-Imidazo[1,2-b]pyrazole 251-84-3, 1H-Pyrazolo[1,5-d]tetrazole  
 496-29-7 533-31-3, Sesamol 591-27-5D, m-Aminophenol, derivs.  
 608-25-3, 2-MethylResorcinol 957-46-0 1006-19-5 1076-59-1  
 1677-44-7 1677-46-9 1900-41-0 2380-86-1, 6-Hydroxyindole  
 2380-94-1, 4-Hydroxyindole 3147-44-2 3147-45-3 3543-01-9 3610-10-4  
 3610-11-5 3610-14-8 3610-15-9 3652-66-2 3780-53-8 4583-76-0  
 4701-07-9 4701-08-0 5396-19-0 6377-12-4, 3-Aminocarbazole  
 6604-51-9 6769-56-8 7080-95-7, 1H-Imidazo[1,2-b][1,2,4]triazole  
 7148-88-1 7182-21-0 7182-22-1 7182-23-2 7469-77-4,  
 2-Methyl-1-Naphthol 7556-37-8, 4-Hydroxy-N-methylindole 7711-50-4  
 7711-51-5 7722-84-1, Hydrogen peroxide, biological studies 9035-73-8,  
 Oxidase 13196-11-7, 6-Hydroxybenzofuran 14268-66-7,  
 5-Amino-1,3-benzodioxole 14300-45-9 15579-15-4, 5-Hydroxyindazole  
 16162-66-6 16867-03-1, 2-Amino-3-hydroxypyridine 17113-07-4  
 18791-20-3 19727-83-4 19727-91-4 21505-20-4, 1,3-Benzodioxole-5,6-  
 diol 22065-99-2 23244-88-4, 6-Hydroxyindazole 23998-01-8  
 25711-72-2, 3-Ureido aniline 26021-57-8, 6-Hydroxybenzomorpholine  
 26455-21-0 26707-11-9 28020-38-4 28228-71-9 28228-73-1  
 28491-57-8 28491-65-8 29100-87-6 29152-27-0D, 1H-Imidazo[2,1-c]-  
 1,2,4-triazole, derivs. 29269-71-4 29269-80-5 29539-03-5  
 29871-83-8 29879-50-3 30302-81-9 30569-52-9 30569-56-3  
 31136-93-3 31499-91-9 32977-21-2 33235-51-7 35911-20-7  
 40038-56-0D, 1H-Pyrrolo[1,2-b][1,2,4]triazole, derivs. 40485-91-4  
 40485-97-0 42318-46-7, 1H-Pyrazolo[1,5-a]benzimidazole 42351-84-8  
 42375-07-5D, 1H-Pyrrolo[1,2-c][1,2,3]triazole, derivs. 49572-43-2  
 51437-32-2 51437-33-3 52824-31-4 54385-62-5 54675-24-0  
 55198-96-4 56157-25-6 56710-03-3 57371-25-2 59211-24-4  
 60026-12-2 61975-74-4 62950-39-4 63457-00-1 65738-28-5  
 66348-57-0 68705-55-5, 1,3,6,8-Tetraaminocarbazole 70643-19-5  
 72721-02-9 72728-25-7 73447-99-1 77354-42-8 80166-90-1  
 81329-90-0 81382-45-8, 4-Hydroxyindazole 81382-46-9, 7-Hydroxyindazole  
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 86319-80-4, 1,3-Benzodioxole-4,7-diol 88580-73-8 90004-33-4  
 90843-21-3 90871-66-2 92224-25-4 92767-23-2 92767-24-3  
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 1H-Benzimidazole-4,7-diol 102612-44-2 102612-46-4 102624-29-3  
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RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(hair dyeing compns. comprising phenylenediamine with  
 pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)

IT 197355-77-4 197355-78-5 197355-79-6 197355-80-9 197355-81-0  
 197355-82-1 197355-83-2 197355-85-4 197355-86-5 197355-87-6  
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 1H-Imidazo[1,2-b]pyrazol-6-amine 197356-48-2 197356-49-3 197356-51-7  
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 197378-19-1 197378-21-5 197378-23-7 197378-28-2,  
 1H-Pyrrolotetrazole-6,7-dicarbonitrile 197378-30-6 197378-33-9  
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 197378-45-3 197378-47-5 197378-49-7 197443-95-1 197444-02-3  
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 705927-71-5 705927-72-6 705927-73-7 705927-74-8 705927-75-9  
 705927-76-0 705927-77-1 705927-78-2 705927-79-3 705927-80-6  
 705927-81-7 705927-82-8 705927-83-9 705927-84-0 705927-85-1  
 705927-86-2 705927-87-3 705927-88-4 705927-89-5 705927-90-8  
 705927-91-9 705927-93-1 705927-94-2 705927-95-3 705927-96-4  
 705927-97-5 705927-98-6 705927-99-7 705928-00-3 705928-01-4  
 705928-02-5 705928-03-6 705928-04-7 705928-05-8 705928-06-9  
 705928-07-0 705928-08-1 705928-09-2

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)

IT 705928-10-5 705928-11-6 705928-12-7 705928-13-8 705928-14-9  
 705928-15-0, 5,7-Benzofurandiamine 705928-16-1 705928-17-2  
 705928-18-3 705928-19-4, 4,6-Benzofurandiamine 705928-20-7  
 705928-21-8 705928-22-9 705928-23-0 705928-24-1 705928-25-2  
 705928-26-3 705928-27-4 705928-28-5 705928-29-6 705928-30-9  
 705928-31-0 705928-32-1 705928-33-2 705928-34-3 705928-35-4,  
 1,3-Benzodioxole-4,5,7-triamine 705928-36-5 705928-37-6 706788-00-3  
 706788-01-4 706788-02-5

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)

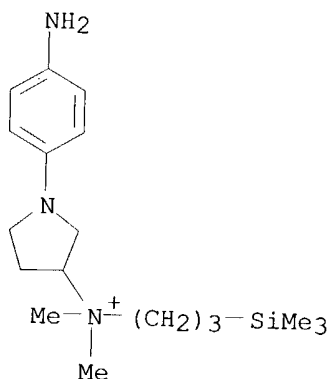
IT 607355-13-5 607355-17-9 701975-15-7  
 701975-27-1 701975-29-3 701975-30-6

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)

RN 607355-13-5 HCAPLUS

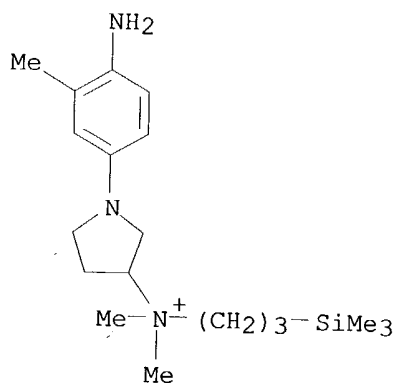
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

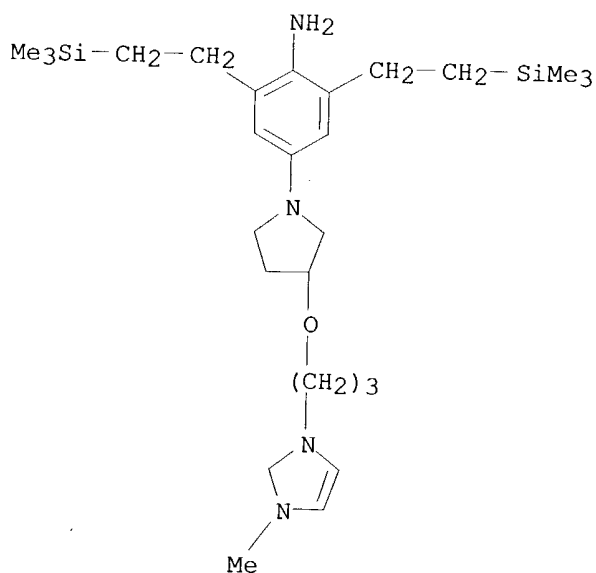
RN 607355-17-9 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

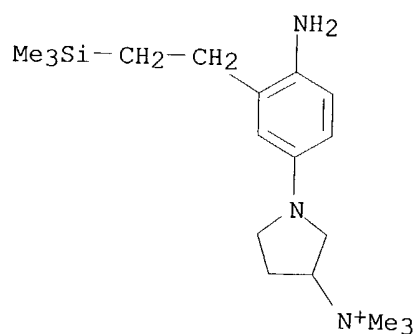
RN 701975-15-7 HCAPLUS  
 CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

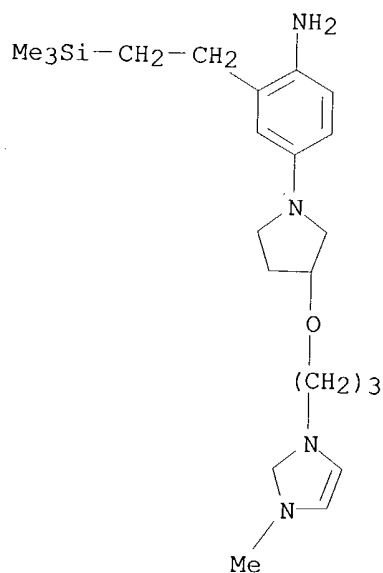
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-27-1 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

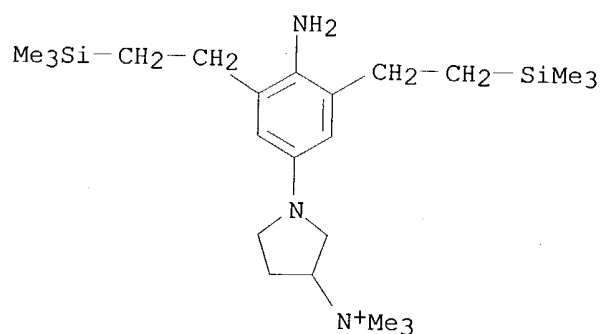
RN 701975-29-3 HCAPLUS  
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-30-6 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 9 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:482164 HCAPLUS

DN 141:42537

TI **Hair** dyeing compositions comprising a tertiary p-phenylenediamine with a pyrrolidine ring and a polyol

IN Cotteret, Jean; Lagrange, Alain

PA L'oreal, Fr.

SO Eur. Pat. Appl., 50 pp.

CODEN: EPXXDW

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1428509	A1	20040616	EP 2003-293134	20031212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2848438	A1	20040618	FR 2002-15771	20021213
PRAI	FR 2002-15771	A	20021213		

OS MARPAT 141:42537

AB **Hair** dyeing comps. comprise a tertiary p-phenylenediamine with a pyrrolidine ring and a polyol. Thus, a composition contained oleic acid 9, polyglyceryl oleyl ether 12, diethylaminopropyl laurylamino succinamate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, hexylene glycol 20, reducing agents 0.915, sequestrants 1, resorcinol 0.085, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 1.0, 2-methyl-5-aminophenol 0.5, perfume qs, ammonia 10.2, and water qs to 100 g. The above composition was mixed with 6% H2O2 and applied onto **hair**

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

ST **hair** dye polyol phenylenediamine pyrrolidine

IT Phenols, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(amino; **hair** dyeing comps. comprising phenylenediamine with pyrrolidine ring and polyol)

- IT Surfactants  
(amphoteric; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)
- IT Surfactants  
(anionic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)
- IT Polyelectrolytes  
Surfactants  
(cationic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)
- IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(diamines, aromatic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)
- IT Dyes  
(direct; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)
- IT **Hair** preparations  
(dyes, oxidative; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)
- IT **Hair** preparations  
(dyes; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)
- IT Oxidizing agents  
Surfactants  
Thickening agents  
(**hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)
- IT Bromates  
Ethers, biological studies  
Polyoxyalkylenes, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(**hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)
- IT Surfactants  
(nonionic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)
- IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(peroxy; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)
- IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(phenolic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)
- IT Alcohols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(polyhydric; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)
- IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxy; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)
- IT Surfactants  
(zwitterionic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)
- IT 50-70-4, Sorbitol, biological studies 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol, biological studies 76-09-5, Pinacol 90-15-3,  $\alpha$ -Naphthol

95-55-6D, o-Aminophenol, derivs. 95-88-5, 4-ChloroResorcinol  
 106-50-3D, p-Phenylenediamine, derivs. 107-41-5, Hexylene glycol  
 107-88-0, 1,3-Butanediol 108-45-2, 1,3-Diaminobenzene, biological  
 studies 108-45-2D, m-Phenylenediamine, derivs. 108-46-3, Resorcinol,  
 biological studies 108-46-3D, Resorcinol, derivs. 111-29-5,  
 1,5-Pentanediol 123-30-8D, p-Aminophenol, derivs. 124-43-6 126-30-7,  
 Neopentyl glycol 513-85-9, 2,3-Butanediol 533-31-3, Sesamol  
 591-27-5D, m-Aminophenol, derivs. 608-25-3, 2-MethylResorcinol  
 2163-42-0, 2-Methyl-1,3-propanediol 2380-86-1, 6-Hydroxyindole  
 2380-94-1, 4-Hydroxyindole 2568-33-4, Isoprene glycol 3068-00-6,  
 1,2,4-Butanetriol 4435-50-1, 1,2,3-Butanetriol 4457-71-0,  
 3-Methyl-1,5-pentanediol 7469-77-4, 2-Methyl-1-naphthol 7556-37-8,  
 4-Hydroxy-N-methylindole 7564-64-9, 3-Methyl-1,3,5-pentanetriol  
 7722-84-1, Hydrogen peroxide, biological studies 9035-73-8, Oxidase  
 16867-03-1, 2-Amino-3-hydroxypyridine 25322-68-3, Polyethylene glycol  
 25711-72-2, 3-Ureido aniline 26021-57-8, 6-Hydroxybenzomorpholine  
 26455-21-0 70643-19-5 81329-90-0 81892-72-0 85679-78-3,  
 3,5-DiAmino-2,6-dimethoxypyridine 149330-25-6 402941-00-8  
 435275-61-9 435275-62-0 435275-65-3 435275-66-4 435275-67-5  
 435275-68-6 435275-69-7 435275-70-0 435275-72-2 435275-73-3  
 435275-74-4 435275-82-4 607355-12-4 **607355-13-5**  
 607355-16-8 **607355-17-9** 607355-18-0 607355-19-1  
 607355-20-4 607355-21-5 701975-01-1 701975-04-4 701975-07-7  
 701975-08-8 701975-09-9 701975-10-2 701975-11-3 701975-12-4  
 701975-13-5 701975-14-6 **701975-15-7** 701975-16-8  
 701975-17-9 701975-18-0 701975-19-1 701975-20-4 701975-21-5  
 701975-22-6 701975-23-7 701975-24-8 701975-25-9 701975-26-0  
**701975-27-1** 701975-28-2 **701975-29-3**  
**701975-30-6** 701975-31-7 701975-32-8 701975-33-9  
 701975-34-0 701975-35-1

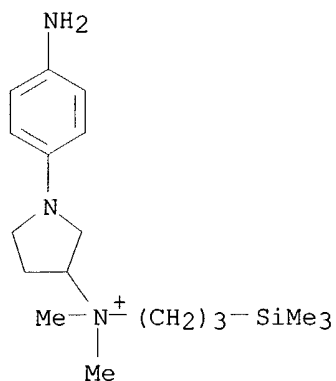
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising phenylenediamine with  
 pyrrolidine ring and polyol)

IT **607355-13-5 607355-17-9 701975-15-7**  
**701975-27-1 701975-29-3 701975-30-6**

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising phenylenediamine with  
 pyrrolidine ring and polyol)

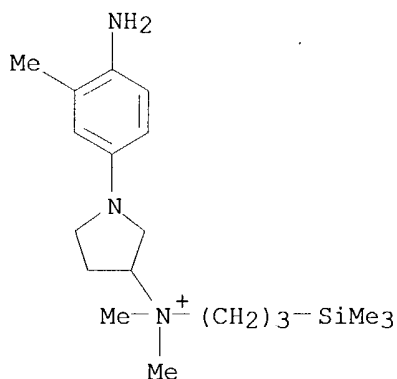
RN 607355-13-5 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-  
 (trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



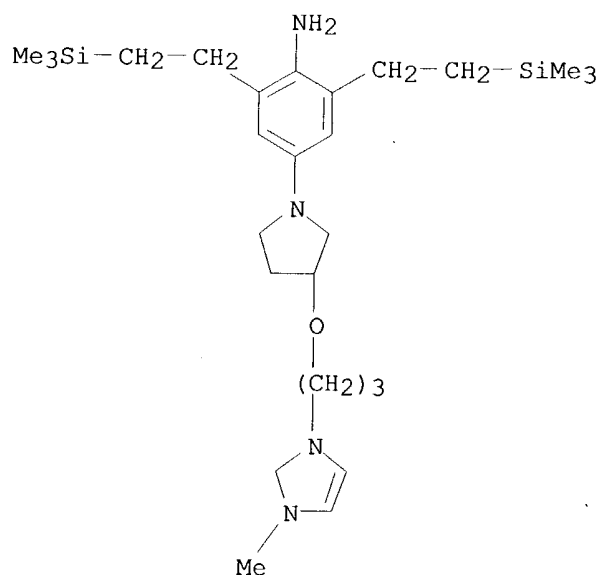
● Cl<sup>-</sup>

RN 607355-17-9 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

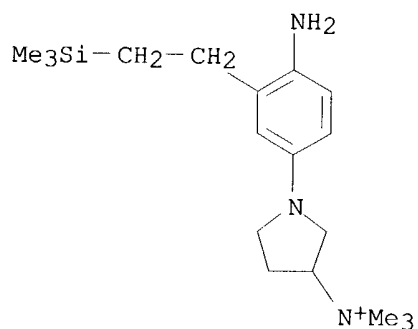
RN 701975-15-7 HCAPLUS  
 CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-27-1 HCAPLUS

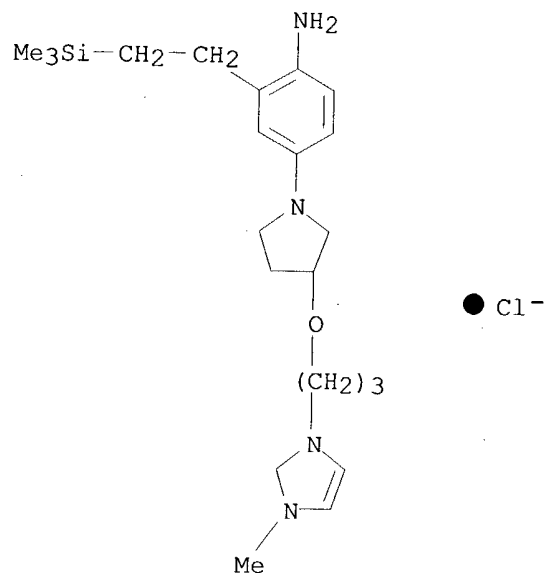
CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-29-3 HCAPLUS

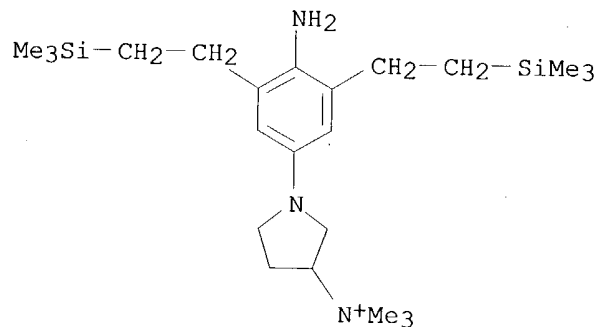
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-30-6 HCAPLUS

CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 10 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:482163 HCAPLUS

DN 141:42536

TI **Hair** dyeing compositions comprising a tertiary p-phenylenediamine with a pyrrolidine ring and a monosaccharide or disaccharide

IN Cotteret, Jean; Lagrange, Alain

PA L'oreal, Fr.

SO Eur. Pat. Appl., 50 pp.

CODEN: EPXXDW

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1428508	A1	20040616	EP 2003-293133	20031212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2848442	A1	20040618	FR 2002-15775	20021213
PRAI	FR 2002-15775	A	20021213		
OS	MARPAT 141:42536				

AB **Hair** dyeing compns. comprise a tertiary p-phenylenediamine with a pyrrolidine ring and a monosaccharide or disaccharide. Thus, a composition contained oleic acid 9, polyglyceryl oleyl ether 12, diethylaminopropyl laurylamino succinamate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, hexylene glycol 20, reducing agents 0.915, saccharose 1, sequestrants 1, resorcinol 0.085, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 1.0, 2-methyl-5-aminophenol 0.5, perfume qs, ammonia 10.2, and water qs to 100 g. The above composition was mixed with 6% H2O2 and applied onto **hair**

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

ST **hair** dye phenylenediamine pyrrolidine monosaccharide disaccharide

IT Phenols, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(amino; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)

IT Surfactants

(amphoteric; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)

IT Surfactants

(anionic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)

IT Polyelectrolytes

Surfactants

(cationic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)

IT Amines, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(diamines, aromatic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)

IT Dyes

(direct; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)

IT **Hair** preparations

(dyes, oxidative; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)

IT **Hair** preparations

(dyes; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)

IT Oxidizing agents

Surfactants

Thickening agents

- (**hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)
- IT Bromates
- Disaccharides
- Ethers, biological studies
- Hexoses
- Monosaccharides
- Pentoses
- RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
- (**hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)
- IT Monosaccharides
- RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
- (heptoses; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)
- IT Monosaccharides
- RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
- (ketoses; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)
- IT Surfactants
- (nonionic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)
- IT Carboxylic acids, biological studies
- RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
- (peroxy; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)
- IT Amines, biological studies
- RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
- (phenolic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)
- IT Carboxylic acids, biological studies
- RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
- (salts, peroxy; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)
- IT Monosaccharides
- RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
- (tetroses; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)
- IT Surfactants
- (zwitterionic; **hair** dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)
- IT 50-69-1, Ribose 50-99-7, Glucose, biological studies 56-81-5, Glycerol, biological studies 57-48-7, Fructose, biological studies 57-50-1, Saccharose, biological studies 57-55-6, Propylene glycol, biological studies 58-86-6, Xylose, biological studies 59-23-4, Galactose, biological studies 63-42-3, Lactose 64-17-5, Ethanol, biological studies 65-42-9, Lyxose 69-79-4, Maltose 87-79-6, Sorbose 90-15-3,  $\alpha$ -Naphthol 95-55-6D, o-Aminophenol, derivs. 95-88-5, 4-ChloroResorcinol 106-50-3D, p-Phenylenediamine, derivs. 108-45-2, 1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine, derivs. 108-46-3, Resorcinol, biological studies 108-46-3D, Resorcinol, derivs. 123-30-8D, p-Aminophenol, derivs. 124-43-6 147-81-9, Arabinose 492-61-5,  $\beta$ -D-Glucopyranose 492-62-6,  $\alpha$ -D-Glucopyranose 533-31-3, Sesamol 551-84-8, Xylulose 591-27-5D, m-Aminophenol, derivs. 608-25-3, 2-MethylResorcinol 1758-51-6, Erythrose 2152-76-3, Idose 2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 3458-28-4, Mannose 5556-48-9, Ribulose

5987-68-8, Altrose 6038-51-3, Allose 7469-77-4, 2-Methyl-1-Naphthol  
 7556-37-8, 4-Hydroxy-N-methylindole 7722-84-1, Hydrogen peroxide,  
 biological studies 9035-73-8, Oxidase 16867-03-1, 2-Amino-3-  
 hydroxypyridine 17598-81-1, Tagatose 19163-87-2, Gulose 23140-52-5,  
 Psicose 25711-72-2, 3-Ureido aniline 26021-57-8, 6-  
 Hydroxybenzomorpholine 26455-21-0 29884-64-8, Threose 30077-17-9,  
 Talose 40031-31-0, Erythrulose 70643-19-5 81329-90-0 81892-72-0  
 85679-78-3, 3,5-DiAmino-2,6-dimethoxypyridine 149330-25-6 402941-00-8  
 435275-61-9 435275-62-0 435275-65-3 435275-66-4 435275-67-5  
 435275-68-6 435275-69-7 435275-70-0 435275-72-2 435275-73-3  
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 701975-08-8 701975-09-9 701975-10-2 701975-11-3 701975-12-4  
 701975-13-5 701975-14-6 **701975-15-7** 701975-16-8  
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 701975-22-6 701975-23-7 701975-24-8 701975-25-9 701975-26-0  
**701975-27-1** 701975-28-2 **701975-29-3**  
**701975-30-6** 701975-31-7 701975-32-8 701975-33-9  
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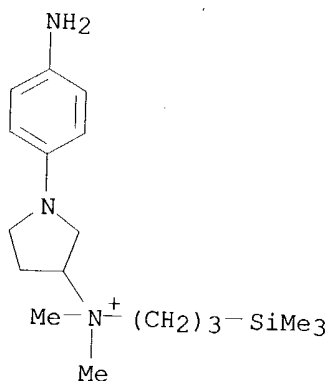
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising phenylenediamine with  
 pyrrolidine ring and monosaccharide or disaccharide)

IT **607355-13-5 607355-17-9 701975-15-7**  
**701975-27-1 701975-29-3 701975-30-6**

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising phenylenediamine with  
 pyrrolidine ring and monosaccharide or disaccharide)

RN 607355-13-5 HCAPLUS

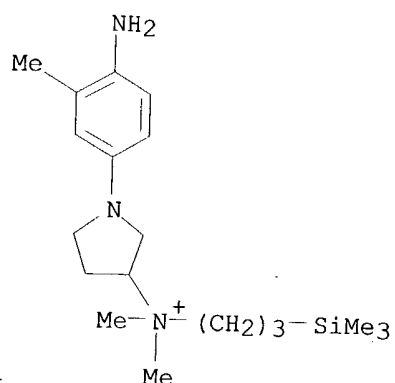
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-  
 (trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

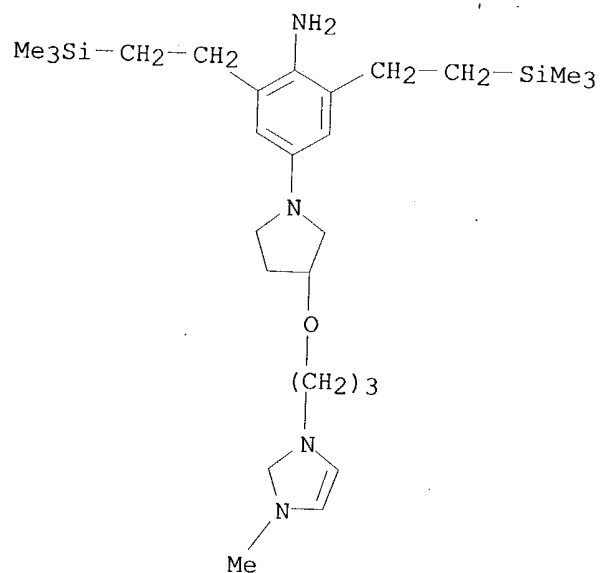
RN 607355-17-9 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-  
 (trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

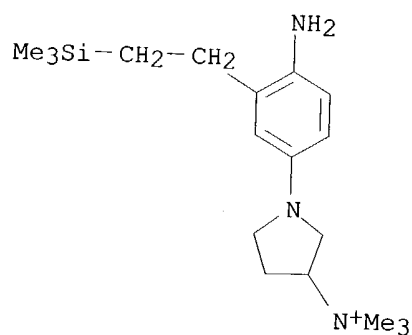
RN 701975-15-7 HCAPLUS  
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

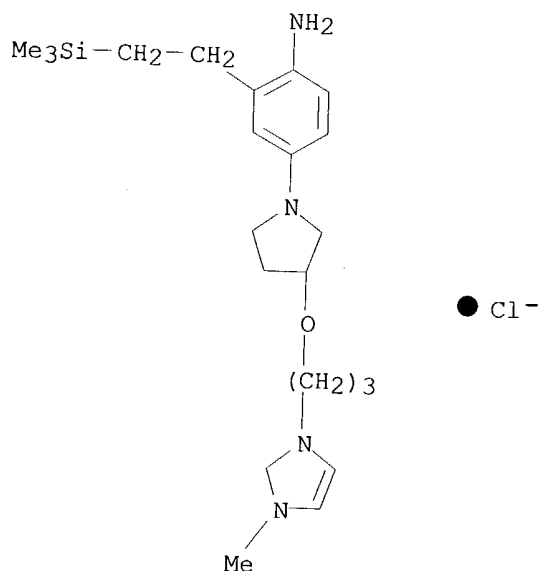
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-27-1 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-29-3 HCAPLUS  
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

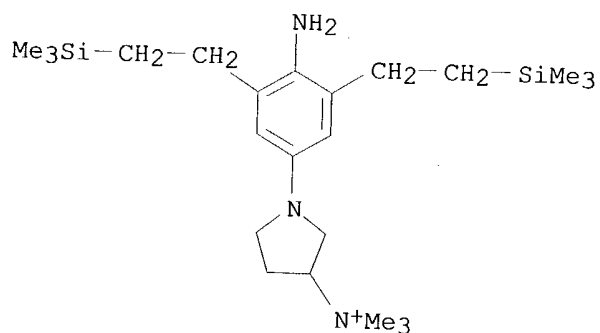


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-30-6 HCAPLUS

CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)

● Cl<sup>-</sup>

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 11 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:482162 HCAPLUS  
DN 141:42535  
TI **Hair** dyeing composition comprising a cationic p-phenylenediamine  
with a pyrrolidine ring and a dicarboxylic acid  
IN Cotteret, Jean; Lagrange, Alain  
PA L'oreal, Fr.  
SO Eur. Pat. Appl., 50 pp.  
CODEN: EPXXDW  
DT Patent  
LA French  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1428507	A1	20040616	EP 2003-293132	20031212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2848435	A1	20040618	FR 2002-15768	20021213
PRAI	FR 2002-15768	A	20021213		
OS	MARPAT 141:42535				
AB	<b>Hair</b> dyeing compns. comprise a cationic p-phenylenediamine with a pyrrolidine ring and a dicarboxylic acid. Thus, a composition contained oleic acid 9, polyglyceryl oleyl ether 12, diethylaminopropyl laurylamino succinate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, propylene glycol 20, dilinoleic acid 1.5, reducing agents 0.915, sequestrants 1, resorcinol 0.085, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 1.0, 2-methyl-5-aminophenol 0.5, perfume qs, ammonia 10.2, and water qs to 100 g. The above composition was mixed with 6% H2O2 and applied onto <b>hair</b> . ICM A61K007-13 62-3 (Essential Oils and Cosmetics) phenylenediamine pyrrolidine dicarboxylic acid <b>hair</b> dye Phenols, biological studies RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses) (amino; <b>hair</b> dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)				

- IT Surfactants  
(amphoteric; **hair** dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)
- IT Surfactants  
(anionic; **hair** dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)
- IT Polyelectrolytes  
Surfactants  
(cationic; **hair** dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)
- IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(diamines, aromatic; **hair** dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)
- IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(dicarboxylic, salts; **hair** dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)
- IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(dicarboxylic; **hair** dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)
- IT **Hair** preparations  
(dyes, oxidative; **hair** dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)
- IT **Hair** preparations  
(dyes; **hair** dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)
- IT Oxidizing agents  
Surfactants  
Thickening agents  
(**hair** dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)
- IT Bromates  
Ethers, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(**hair** dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)
- IT Surfactants  
(nonionic; **hair** dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)
- IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(peroxy; **hair** dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)
- IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(phenolic; **hair** dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)
- IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxy; **hair** dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)
- IT Surfactants  
(zwitterionic; **hair** dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)
- IT 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol, biological studies 90-15-3,  $\alpha$ -Naphthol 95-55-6D, o-Aminophenol, derivs. 95-88-5,

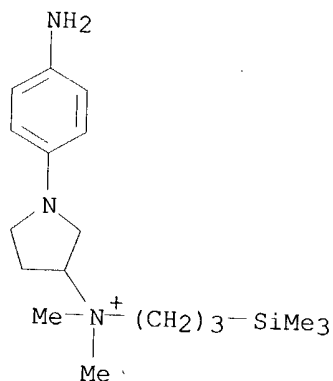
4-ChloroResorcinol 106-50-3D, p-Phenylenediamine, derivs. 108-45-2,  
 1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine,  
 derivs. 108-46-3, Resorcinol, biological studies 108-46-3D,  
 Resorcinol, derivs. 110-15-6, Succinic acid, biological studies  
 110-16-7, Maleic acid, biological studies 123-30-8D, p-Aminophenol,  
 derivs. 124-04-9, Adipic acid, biological studies 124-43-6 141-82-2,  
 Malonic acid, biological studies 533-31-3, Sesamol 591-27-5D,  
 m-Aminophenol, derivs. 608-25-3, 2-MethylResorcinol 2380-86-1,  
 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 6144-28-1, Dilinoleic acid  
 6915-15-7, Malic acid 7469-77-4, 2-Methyl-1-Naphthol 7556-37-8,  
 4-Hydroxy-N-methylindole 7722-84-1, Hydrogen peroxide, biological  
 studies 9035-73-8, Oxidase 16867-03-1, 2-Amino-3-hydroxypyridine  
 25711-72-2, 3-Ureido aniline 26021-57-8, 6-Hydroxybenzomorpholine  
 26455-21-0 70643-19-5 81329-90-0 81892-72-0 85679-78-3,  
 3,5-DiAmino-2,6-dimethoxypyridine 149330-25-6 402941-00-8  
 435275-61-9 435275-62-0 435275-65-3 435275-66-4 435275-67-5  
 435275-68-6 435275-69-7 435275-70-0 435275-72-2 435275-73-3  
 435275-74-4 435275-82-4 607355-12-4 **607355-13-5**  
 607355-16-8 **607355-17-9** 607355-18-0 607355-19-1  
 607355-20-4 607355-21-5 701975-01-1 701975-04-4 701975-07-7  
 701975-08-8 701975-09-9 701975-10-2 701975-11-3 701975-12-4  
 701975-13-5 701975-14-6 **701975-15-7** 701975-16-8  
 701975-17-9 701975-18-0 701975-19-1 701975-20-4 701975-21-5  
 701975-22-6 701975-23-7 701975-24-8 701975-25-9 701975-26-0  
**701975-27-1** 701975-28-2 **701975-29-3**  
**701975-30-6** 701975-31-7 701975-32-8 701975-33-9  
 701975-34-0 701975-35-1

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing composition comprising cationic phenylenediamine with  
 pyrrolidine ring and dicarboxylic acid)

IT **607355-13-5 607355-17-9 701975-15-7**  
**701975-27-1 701975-29-3 701975-30-6**

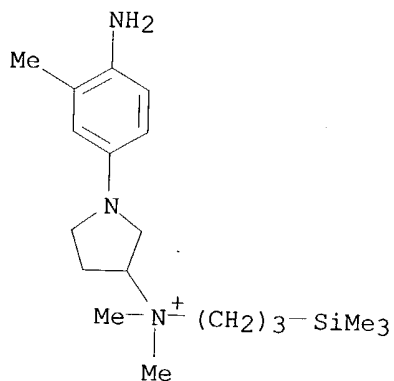
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing composition comprising cationic phenylenediamine with  
 pyrrolidine ring and dicarboxylic acid)

RN **607355-13-5 HCAPLUS**  
 CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-  
 (trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



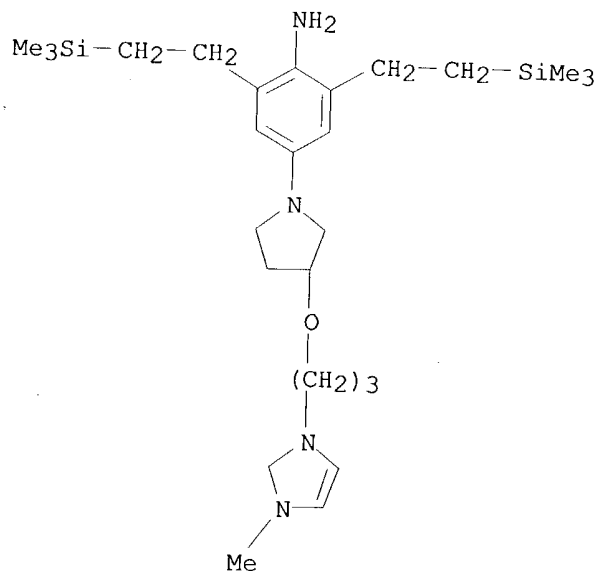
● Cl<sup>-</sup>

RN 607355-17-9 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

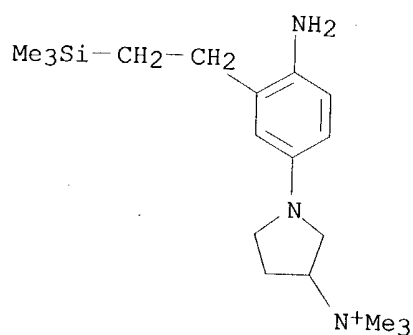
RN 701975-15-7 HCAPLUS  
 CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

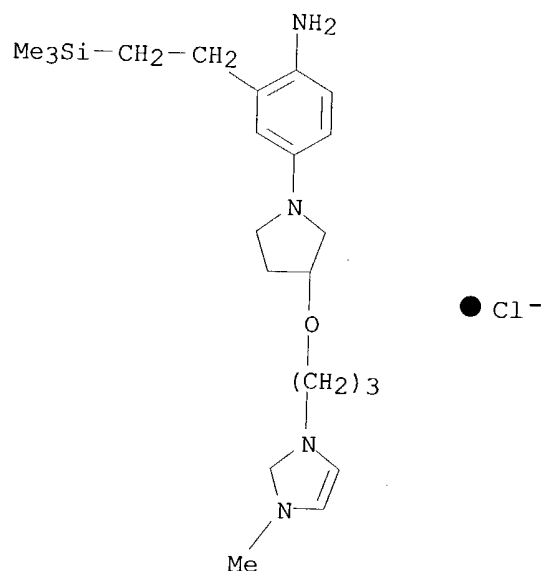
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-27-1 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

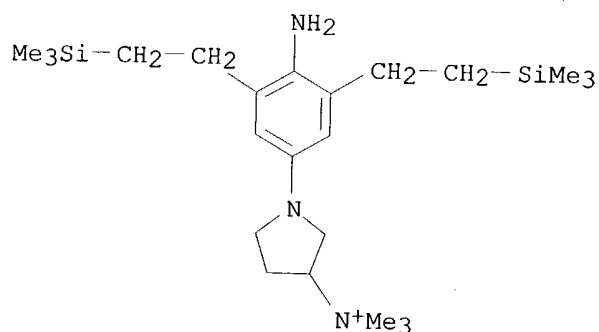
RN 701975-29-3 HCAPLUS  
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-30-6 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 12 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:482161 HCAPLUS  
DN 141:42534  
TI **Hair** dyeing composition comprising p-phenylenediamine with a  
pyrrolidine ring and a polymer  
IN Cotteret, Jean; Lagrange, Alain  
PA L'oreal, Fr.  
SO Eur. Pat. Appl., 53 pp.  
CODEN: EPXXDW  
DT Patent  
LA French  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1428506	A1	20040616	EP 2003-293131	20031212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2848433	A1	20040618	FR 2002-15766	20021213
PRAI	FR 2002-15766	A	20021213		
AB	<b>Hair</b> dyeing composition comprise p-phenylenediamine with a cationic pyrrolidine ring and a polymer with fatty chains. Thus, a composition contained oleic acid 9, polyglyceryl oleyl ether 12, diethylaminopropyl laurylamino succinamate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, hexylene glycol 20, reducing agents 0.915, sequestrants 1, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 0.8, ACP-1234 0.2, 2-methyl-5-aminophenol 0.5, perfume qs, ammonia 10.2, and water qs to 100 g. The above composition was mixed with 6% H2O2 and applied onto <b>hair</b>				
IC	ICM A61K007-13				
CC	62-3 (Essential Oils and Cosmetics)				
ST	phenylenediamine pyrrolidine polymer <b>hair</b> dye				
IT	Phenols, biological studies				
	RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses) (amino; <b>hair</b> dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)				
IT	Surfactants				

- (amphoteric; **hair** dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)
- IT Polyelectrolytes  
Surfactants  
(anionic; **hair** dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)
- IT Polyelectrolytes  
Surfactants  
(cationic; **hair** dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)
- IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(diamines, aromatic; **hair** dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)
- IT **Hair** preparations  
(dyes, oxidative; **hair** dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)
- IT **Hair** preparations  
(dyes; **hair** dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)
- IT Oxidizing agents  
Surfactants  
Thickening agents  
(**hair** dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)
- IT Bromates  
Ethers, biological studies  
Polyurethanes, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(**hair** dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)
- IT Surfactants  
(nonionic; **hair** dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)
- IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(peroxy; **hair** dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)
- IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(phenolic; **hair** dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)
- IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxy; **hair** dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)
- IT Surfactants  
(zwitterionic; **hair** dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)
- IT 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol, biological studies 79-10-7D, Acrylic acid, esters, polymers 79-41-4D, Methacrylic acid, esters, polymers 90-15-3,  $\alpha$ -Naphthol 95-55-6D, o-Aminophenol, derivs. 95-88-5, 4-ChloroResorcinol 106-50-3D, p-Phenylenediamine, derivs. 108-45-2, 1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine, derivs. 108-46-3, Resorcinol, biological studies 108-46-3D, Resorcinol, derivs. 123-30-8D, p-Aminophenol, derivs. 124-43-6 533-31-3, Sesamol 591-27-5D, m-Aminophenol, derivs. 608-25-3, 2-MethylResorcinol 2380-86-1, 6-Hydroxyindole 2380-94-1,

4-Hydroxyindole 7469-77-4, 2-Methyl-1-Naphthol 7556-37-8,  
 4-Hydroxy-N-methylindole 7722-84-1, Hydrogen peroxide, biological  
 studies 9003-39-8D, Polyvinylpyrrolidone, cationic derivs. 9004-34-6D,  
 Cellulose, cationic derivs. 9035-73-8, Oxidase 16867-03-1,  
 2-Amino-3-hydroxypyridine 25711-72-2, 3-Ureido aniline 26021-57-8,  
 6-Hydroxybenzomorpholine 26455-21-0 28062-60-4, Acrylic acid-lauryl  
 methacrylate copolymer 70643-19-5 81329-90-0 81892-72-0  
 85679-78-3, 3,5-DiAmino-2,6-dimethoxypyridine 138789-85-2, Pemulen TR1  
 146701-61-3, Carbopol 1382 149330-25-6 306769-69-7 306769-73-3  
 402941-00-8 435275-61-9 435275-62-0 435275-65-3 435275-66-4  
 435275-67-5 435275-68-6 435275-69-7 435275-70-0 435275-72-2  
 435275-73-3 435275-74-4 435275-82-4 607355-12-4 **607355-13-5**  
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 701975-13-5 701975-14-6 **701975-15-7** 701975-16-8  
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 701975-22-6 701975-23-7 701975-24-8 701975-25-9 701975-26-0  
**701975-27-1** 701975-28-2 **701975-29-3**  
**701975-30-6** 701975-31-7 701975-32-8 701975-33-9  
 701975-34-0 701975-35-1

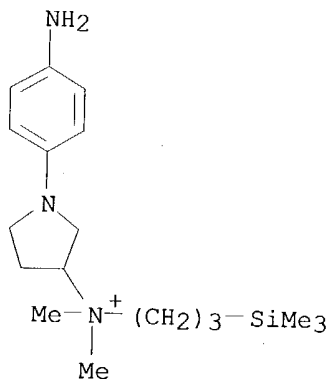
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing composition comprising phenylenediamine with  
 pyrrolidine ring and polymer)

IT **607355-13-5 607355-17-9 701975-15-7**  
**701975-27-1 701975-29-3 701975-30-6**

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing composition comprising phenylenediamine with  
 pyrrolidine ring and polymer)

RN 607355-13-5 HCAPLUS

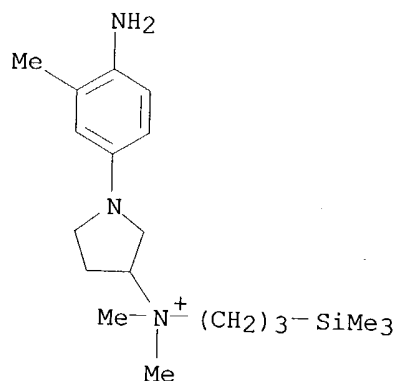
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-  
 (trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

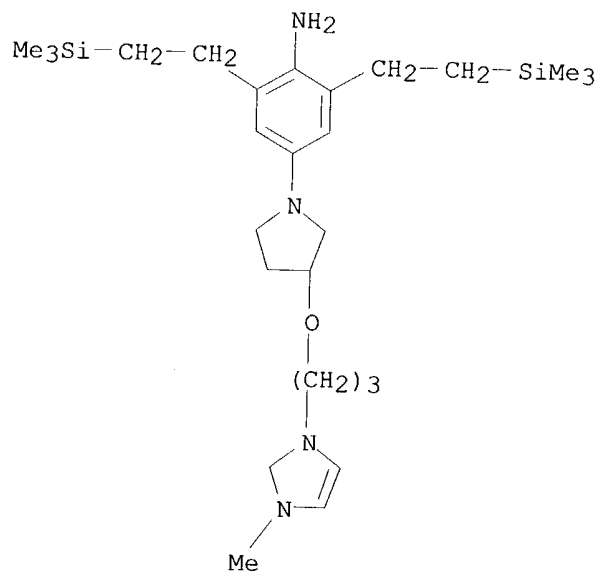
RN 607355-17-9 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-  
 (trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

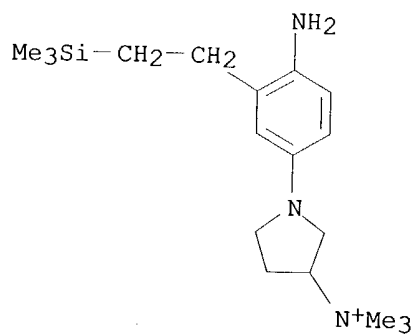
RN 701975-15-7 HCAPLUS  
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

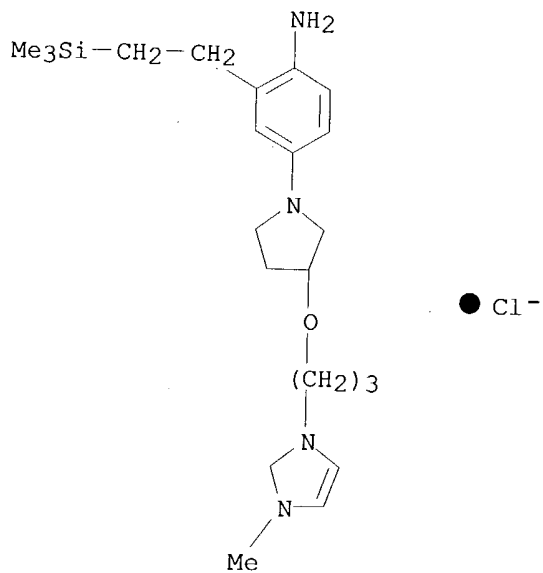
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-27-1 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

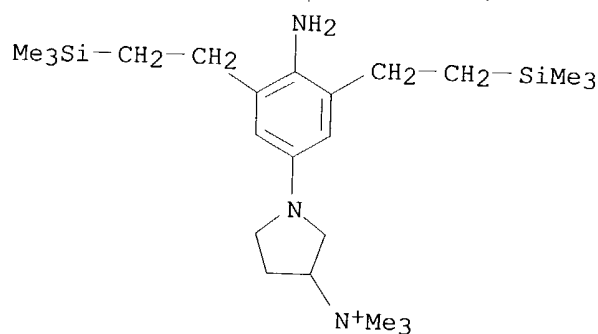
RN 701975-29-3 HCAPLUS  
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-30-6 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 13 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:482160 HCAPLUS  
DN 141:42533  
TI **Hair** dyeing compositions comprising a cationic tertiary  
p-phenylenediamine with a pyrrolidine ring and a cationic heterocyclic  
direct dye  
IN Cotteret, Jean; Lagrange, Alain  
PA L'oreal, Fr.  
SO Eur. Pat. Appl., 104 pp.  
CODEN: EPXXDW  
DT Patent  
LA French  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1428505	A1	20040616	EP 2003-293130	20031212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2848439	A1	20040618	FR 2002-15772	20021213
PRAI	FR 2002-15772	A	20021213		
OS	MARPAT 141:42533				

AB **Hair** dyeing compns. comprise a cationic tertiary  
p-phenylenediamine with a pyrrolidine ring and a cationic heterocyclic  
direct dye. Thus, a composition contained oleic acid 9, polyglyceryl oleyl  
ether 12, diethylaminopropyl laurylamino succinamate sodium salt 3,  
ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10,  
ammonium acetate 20, propylene glycol 20, dilinoleic acid 1.5, reducing  
agents 0.915, sequestrants 1, resorcinol 0.085, [1-(4-  
aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 1.0,  
2-methyl-5-aminophenol 0.5, niacinamide 0.2, perfume qs, ammonia 10.2, and  
water qs to 100 g. The above composition (50 g) was mixed with oxygenated  
water and 0.2 g Basic Red-51.  
IC ICM A61K007-13  
CC 62-3 (Essential Oils and Cosmetics)  
ST **hair** dye direct cationic heterocyclic pyrrolidine  
phenylenediamine  
IT Phenols, biological studies

- RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (amino; **hair** dyeing compns. comprising cationic tertiary  
 phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
 dye)
- IT Surfactants  
 (amphoteric; **hair** dyeing compns. comprising cationic tertiary  
 phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
 dye)
- IT Surfactants  
 (anionic; **hair** dyeing compns. comprising cationic tertiary  
 phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
 dye)
- IT Azo dyes  
 Polyelectrolytes  
 Surfactants  
 (cationic; **hair** dyeing compns. comprising cationic tertiary  
 phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
 dye)
- IT Amines, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (diamines, aromatic; **hair** dyeing compns. comprising cationic  
 tertiary phenylenediamine with pyrrolidine ring and cationic  
 heterocyclic direct dye)
- IT Dyes  
 (direct; **hair** dyeing compns. comprising cationic tertiary  
 phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
 dye)
- IT **Hair** preparations  
 (dyes, oxidative; **hair** dyeing compns. comprising cationic  
 tertiary phenylenediamine with pyrrolidine ring and cationic  
 heterocyclic direct dye)
- IT **Hair** preparations  
 (dyes; **hair** dyeing compns. comprising cationic tertiary  
 phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
 dye)
- IT Oxidizing agents  
 Surfactants  
 Thickening agents  
 (**hair** dyeing compns. comprising cationic tertiary  
 phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
 dye)
- IT Bromates  
 Ethers, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (**hair** dyeing compns. comprising cationic tertiary  
 phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
 dye)
- IT Surfactants  
 (nonionic; **hair** dyeing compns. comprising cationic tertiary  
 phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
 dye)
- IT Carboxylic acids, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (peroxy; **hair** dyeing compns. comprising cationic tertiary  
 phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
 dye)
- IT Amines, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (phenolic; **hair** dyeing compns. comprising cationic tertiary

phenylenediamine with pyrrolidine ring and cationic heterocyclic direct dye)

IT Carboxylic acids, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxy; **hair** dyeing compns. comprising cationic tertiary phenylenediamine with pyrrolidine ring and cationic heterocyclic direct dye)

IT Surfactants

(zwitterionic; **hair** dyeing compns. comprising cationic tertiary phenylenediamine with pyrrolidine ring and cationic heterocyclic direct dye)

IT 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol, biological studies 90-15-3,  $\alpha$ -Naphthol 95-55-6D, o-Aminophenol, derivs. 95-88-5, 4-ChloroResorcinol 106-50-3D, p-Phenylenediamine, derivs. 108-45-2, 1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine, derivs. 108-46-3, Resorcinol, biological studies 108-46-3D, Resorcinol, derivs. 123-30-8D, p-Aminophenol, derivs. 124-43-6 533-31-3, Sesamol 591-27-5D, m-Aminophenol, derivs. 608-25-3, 2-MethylResorcinol 2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 7469-77-4, 2-Methyl-1-Naphthol 7556-37-8, 4-Hydroxy-N-methylindole 7722-84-1, Hydrogen peroxide, biological studies 9035-73-8, Oxidase 12221-52-2, Basic Red 22 12270-25-6, Basic Red 51 16867-03-1, 2-Amino-3-hydroxypyridine 25711-72-2, 3-Ureido aniline 26021-57-8, 6-Hydroxybenzomorpholine 26455-21-0 61901-61-9, Basic Orange 31 70643-19-5 81329-90-0 81892-72-0 85679-78-3, 3,5-DiAmino-2,6-dimethoxypyridine 116844-55-4, Basic Yellow 87 149330-25-6 178822-20-3 188006-49-7 402941-00-8 435275-61-9 435275-62-0 435275-65-3 435275-66-4 435275-67-5 435275-68-6 435275-69-7 435275-70-0 435275-72-2 435275-73-3 435275-74-4 435275-82-4 477952-17-3 477952-18-4 477952-19-5 477952-20-8 477952-21-9 478239-95-1 478239-96-2 478239-97-3 478239-98-4 478239-99-5 478240-00-5 478240-01-6 478240-02-7 478240-03-8 478240-04-9 478240-05-0 478240-06-1 478240-07-2 478240-08-3 478240-09-4 478240-10-7 478240-11-8 478240-48-1 478242-96-5 503091-83-6 607355-12-4 **607355-13-5** 607355-16-8 **607355-17-9** 607355-18-0 607355-19-1 607355-20-4 607355-21-5 701975-01-1 701975-04-4 701975-07-7 701975-08-8 701975-09-9 701975-10-2 701975-11-3 701975-12-4 701975-13-5 701975-14-6 **701975-15-7** 701975-16-8 701975-17-9 701975-18-0 701975-19-1 701975-20-4 701975-21-5 701975-22-6 701975-23-7 701975-24-8 701975-25-9 701975-26-0 **701975-27-1** 701975-28-2 **701975-29-3** **701975-30-6** 701975-31-7 701975-32-8 701975-33-9 701975-34-0 701975-35-1 704885-69-8 704885-70-1 704885-71-2 704885-72-3 704885-73-4 704885-74-5 704885-75-6 704885-76-7 704885-77-8 704885-78-9 704885-79-0 704885-80-3 704885-81-4 704885-82-5 704885-83-6 704885-84-7 704885-85-8 704885-86-9 704885-87-0 704885-88-1 704885-89-2 704885-90-5 704885-91-6 704885-92-7 704885-93-8 704885-94-9 704885-95-0 704885-96-1 704885-97-2 704885-98-3 704885-99-4 704886-00-0 704886-01-1 704886-02-2 704886-03-3 704886-04-4 704886-05-5 704886-06-6 704886-07-7 704886-08-8 704886-09-9 704886-10-2 704886-11-3 704886-12-4 704886-13-5

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

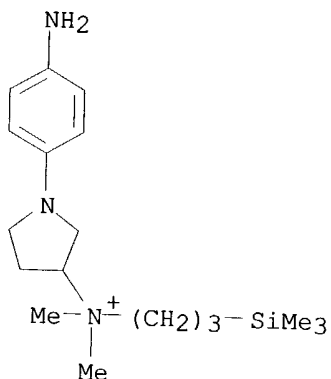
(**hair** dyeing compns. comprising cationic tertiary phenylenediamine with pyrrolidine ring and cationic heterocyclic direct dye)

IT **607355-13-5** **607355-17-9** **701975-15-7**  
**701975-27-1** **701975-29-3** **701975-30-6**

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing comps. comprising cationic tertiary  
 phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
 dye)

RN 607355-13-5 HCAPLUS

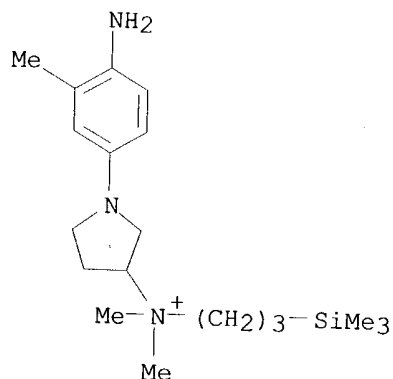
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-  
 (trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-17-9 HCAPLUS

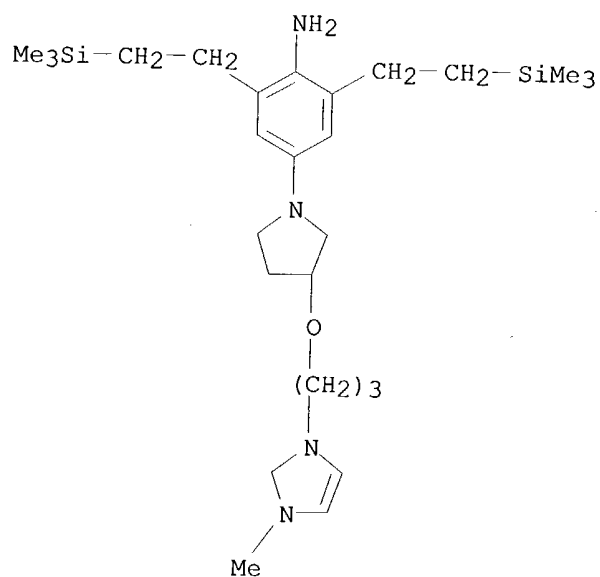
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-  
 (trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-15-7 HCAPLUS

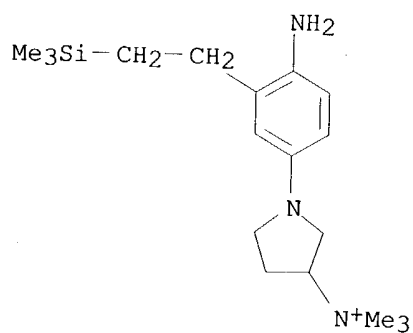
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-  
 3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-27-1 HCAPLUS

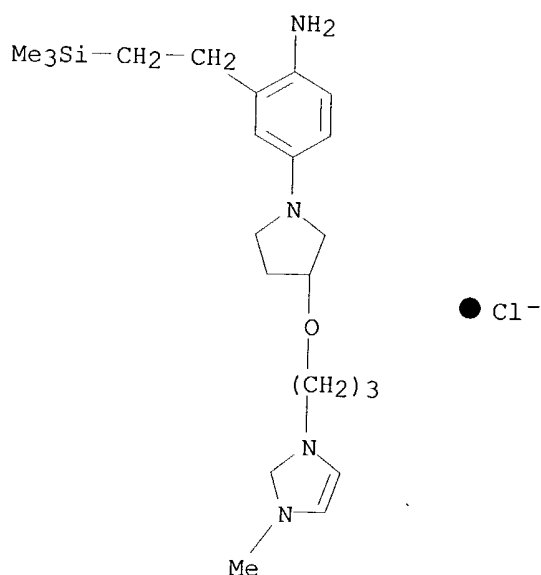
CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



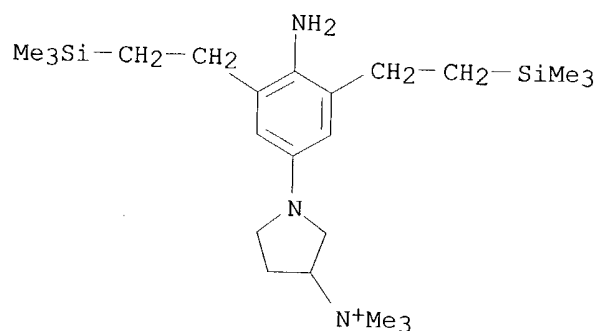
● Cl<sup>-</sup>

RN 701975-29-3 HCAPLUS

CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
 RN 701975-30-6 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 14 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:203176 HCAPLUS  
 DN 140:235599  
 TI Preparation of tricyclic derivatives of indoline or tetrahydroquinoline  
 paraphenylenediamines and their use as dyes for keratinic fibers  
 IN Terranova, Eric; Tuloup, Remy; Sabelle, Stephane  
 PA L'Oreal, Fr.  
 SO Fr. Demande, 47 pp.

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

CODEN: FRXXBL  
 DT Patent  
 LA French  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2844272	A1	20040312	FR 2002-11132	20020909
PRAI	FR 2002-11132		20020909		
OS	MARPAT 140:235599				
GI					

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

- AB Title compds. I [wherein n = 0-3; when n  $\geq$  2, R can be identical or different; R = independently H, (un)substituted aliphatic, alicyclic, saturated or unsatd. hydrocarbon chain with at least one carbon replaced by one or more O, N, Si, S, SO, or SO<sub>2</sub>; R never is peroxide bond, diazo, NO<sub>2</sub>, or NO; R<sub>1</sub>, R<sub>2</sub> = independently H, monohydroxy/polyhydroxy/amino/monoalkylamino/dialkylamino/trialkylamino/polyamino/alkyl, carboxy, monoalkyl/dialkyl/carbamoyl, alkyl/alkoxycarbonyl, OH and derivs., amino, N-alkylimidazolium, (un)substituted mono/di/tri/alkylamino, alkyl; R<sub>3</sub> = H, monohydroxy/polyhydroxy/amino/monoalkylamino/dialkylamino/trialkylamino/polyamino/alkyl, carboxy, monoalkyl/dialkyl/carbamoyl, alkyl/alkoxycarbonyl; R<sub>4</sub> = independently H, monohydroxy/polyhydroxy/amino/monoalkylamino/dialkylamino/trialkylamino/polyamino/alkyl, carboxy, monoalkyl/dialkyl/carbamoyl, alkyl/alkoxycarbonyl, OH and derivs., amino, N-alkylimidazolium, acetamido, (un)substituted mono/di/tri/alkylamino, alkyl; Y = (CH<sub>2</sub>)<sub>q</sub> and derivs.; q = 0 or 1; m = 0-10; when m  $\geq$  2, R<sub>4</sub> can be identical or different; ACNC = 4-7-membered (un)saturated ring heterocycle] were prepared as oxidation bases for dyeing keratinous fibers, in particular human hair fibers. For example, II•2HCl was prepared, in 4 steps, by alkylation of 3-pyrroline with 2-fluoro-5-nitrobenzaldehyde, condensation with tosylhydrazine, cyclization, and reduction of nitroazacyclopentaindene intermediate. Formulations of II in basic medium gave brownish-red to violet shades. Thus, I are useful to obtain a keratinous fiber color exhibiting a good toxicol. and chromatic prophile.
- IC ICM C07D487-04  
 ICS A61K007-13; C07D207-04; C07D207-18; C07D225-02; C07D243-08; C07D211-06
- CC 27-10 (Heterocyclic Compounds (One Hetero Atom))  
 Section cross-reference(s): 62
- ST indolinylnparaphenylenediamine prepn dye keratin fiber; indoline tetrahydroquinoline paraphenylenediamine prepn hair dye keratin fiber
- IT Hair preparations  
 Human  
 (preparation of bis-paraphenylenediamines comprising pyrrolidine groups and their use as dyes for keratinic fibers)
- IT 668987-43-7P 668987-47-1P 668987-48-2P  
 RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (dyes for keratinous fibers; preparation of tricyclic indoline or tetrahydroquinoline paraphenylenediamines and their use as dyes for keratinic fibers)
- IT 668987-44-8P, 2-(2,5-Dihydropyrrol-1-yl)-5-nitrobenzaldehyde  
 668987-45-9P 668987-46-0P 668987-49-3P 668987-50-6P  
 668987-51-7P

RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)  
(intermediate; preparation of tricyclic indoline or tetrahydroquinoline paraphenylenediamines and their use as dyes for **keratinic** fibers)

IT 109-96-6, 3-Pyrroline 1576-35-8, Tosylhydrazine 6361-21-3,  
2-Chloro-5-nitrobenzaldehyde 27996-87-8, 2-Fluoro-5-nitrobenzaldehyde  
100243-39-8, 3-(S)-Hydroxypyrrolidine

RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of tricyclic indoline or tetrahydroquinoline  
paraphenylenediamines and their use as dyes for keratinic fibers)

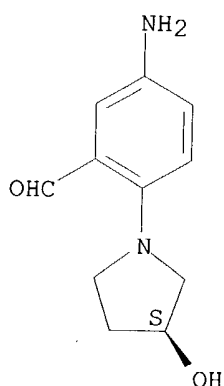
IT **668987-49-3P 668987-50-6P**

RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)  
(intermediate; preparation of tricyclic indoline or tetrahydroquinoline  
paraphenylenediamines and their use as dyes for **keratinic** fibers)

RN 668987-49-3 HCAPLUS

CN Benzaldehyde, 5-amino-2-[(3S)-3-hydroxy-1-pyrrolidinyl]- (9CI) (CA INDEX NAME)

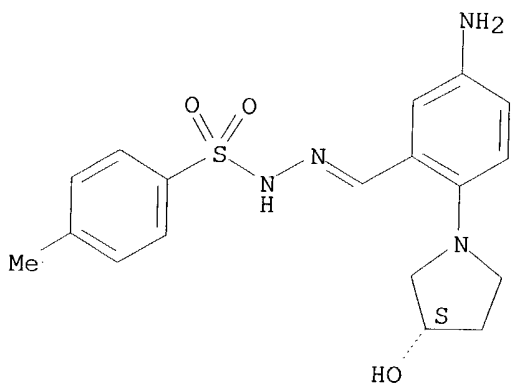
Absolute stereochemistry.



RN 668987-50-6 HCAPLUS

CN Benzenesulfonic acid, 4-methyl-, [[5-amino-2-[(3S)-3-hydroxy-1-pyrrolidinyl]phenyl]methylene]hydrazide (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry unknown.



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 15 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:200101 HCAPLUS  
DN 140:235596  
TI Preparation of bis-paraphenylenediamines comprising pyrrolidine groups and  
their use as dyes for keratinic fibers  
IN Sabelle, Stephane; Ramos, Laure; Leduc, Madeleine  
PA L'Oreal, Fr.  
SO Eur. Pat. Appl., 15 pp.  
CODEN: EPXXDW  
DT Patent  
LA French  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1396486	A1	20040310	EP 2003-292177	20030904
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2844271	A1	20040312	FR 2002-11133	20020909
	US 2004123401	A1	20040701	US 2003-657245	20030909
PRAI	FR 2002-11133	A	20020909		
	US 2002-431713P	P	20021209		
OS	MARPAT 140:235596				
GI					

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Title compds. I [wherein n, n' = independently 0-4; when n, n' ≥ 2, R1 and R2 can be identical or different; R1, R2 = independently H, (un)substituted aliphatic, alicyclic, saturated or unsatd. hydrocarbon chain with at least one carbon replaced by one or more O, N, Si, S, SO, or SO2; R1 and R2 never include peroxide bond, diazo, NO2, or NO; A = covalent bond or (un)substituted alkylene chain with at least one carbon replaced by an ammonium radical and/or by O, S, SiN, CO, SO, SO2; R6, R7 = independently H, CO2H and derivs., alkyl/dialkyl/carbamoyl, trialkylsilane, trialkylammonium, N-alkylimidazolium, (un)substituted alkyl, R8, R9 =

independently H, OH, alkoxy, monoalkyl/dialkyl/amino, thiol, CO<sub>2</sub>H and derivs., alkyl/dialkyl/carbamoyl, trialkylsilane, trialkylammonium, N-alkylimidazolium, (un)substituted alkyl ] were prepared as oxidation bases for dyeing keratinous fibers, in particular human hair fibers. For example, II•Cl•2HCl was prepared alkylation of [1-(4-nitrophenyl)pyrrolidin-3-yl]dimethylamine with 1,6-dibromohexane in MeOH at reflux for 6 h, followed by Pd/C hydrogenation at 10 Barr and 65°. Formulations of II in acidic medium gave blue-violet shades.

IC ICM C07D207-14

ICS C07D207-09; C07D521-00; C07D487-08; C07D207-08; C07D207-16; A61K007-13

CC 27-10 (Heterocyclic Compounds (One Hetero Atom))  
Section cross-reference(s): 62

ST pyrrolidine paraphenylenediamine prepn hair dye keratin fiber

IT Hair preparations  
Human

(preparation of bis-paraphenylenediamines comprising pyrrolidine groups and their use as dyes for keratinic fibers)

IT 74295-58-2P, 2,2'-Bipyrrolidinyl **667914-89-8P** 667914-91-2P  
667914-93-4P, 1,1'-Bis(4-nitrophenyl)-2,2'-bipyrrolidinyl

RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)

(intermediate; preparation of bis-paraphenylenediamines comprising pyrrolidine groups as dyes for **keratinic** fibers)

IT 667914-88-7P 667914-90-1P 667914-92-3P, 1,1'-Bis(4-Aminophenyl)-2,2'-bipyrrolidinyl **667914-94-5P** 667914-95-6P 667914-96-7P,  
1,3-Bis[1-(4-aminophenyl)pyrrolidin-3-yl]-1H-imidazol-3-ium chloride  
667914-97-8P, 1,4-Bis[1-(4-aminophenyl)pyrrolidin-3-yl]-1,4-dimethylpiperazinedium dichloride 667914-99-0P 667915-01-7P,  
N,N'-Bis[[1-(4-aminophenyl)pyrrolidin-2-yl]methyl]-N,N,N',N'-tetramethylhexane-1,6-diaminium dichloride 667915-03-9P 667915-05-1P,  
1,4-Bis[[1-(4-aminophenyl)pyrrolidin-2-yl]methyl]-1,4-dimethylpiperazinedium dichloride 667915-07-3P **667915-09-5P**,  
N,N'-Bis[1-(4-aminophenyl)pyrrolidin-3-yl]-N,N,N',N'-tetramethylpropane-1,3-diaminium dichloride 667915-11-9P 667915-13-1P,  
N,N'-Bis[[1-(4-aminophenyl)pyrrolidin-2-yl]methyl]-N,N,N',N'-tetramethylpropane-1,3-diaminium dichloride 667915-15-3P  
**667915-17-5P**, 1,3-Bis[3-[[1-(4-aminophenyl)pyrrolidin-3-yl]amino]propyl]-1H-imidazol-3-ium chloride **667915-18-6P**,  
N,N'-Bis[1-(4-aminophenyl)-5-(hydroxymethyl)pyrrolidin-3-yl]-N,N,N',N'-tetramethylhexane-1,6-diaminium dichloride **667915-19-7P**  
**667915-20-0P** **667915-21-1P**, N,N'-Bis[1-(4-aminophenyl)pyrrolidin-3-yl]butane-1,4-diamine 667915-22-2P,  
1,3-Bis[[1-(4-aminophenyl)pyrrolidin-2-yl]methoxy]propane  
**667915-23-3P**, N,N'-Bis[[1-(4-aminophenyl)-4-hydroxypyrrolidin-2-yl]methyl]-N,N,N',N'-tetramethylpropane-1,3-diaminium dichloride  
**667915-24-4P**, N,N'-Bis[1-(4-aminophenyl)pyrrolidin-3-yl]ethane-1,2-diamine 667915-25-5P

RL: COS (Cosmetic use); **SPN (Synthetic preparation)**; BIOL (Biological study); **PREP (Preparation)**; USES (Uses)

(oxidation base in dyeing; preparation of bis-paraphenylenediamines comprising

pyrrolidine groups as dyes for **keratinic** fibers)

IT 109-64-8, 1,3-Dibromopropane 123-75-1, Pyrrolidine, reactions  
350-46-9, 4-Fluoronitrobenzene 629-03-8, 1,6-Dibromohexane  
361346-46-5, [1-(4-Nitrophenyl)pyrrolidin-3-yl]dimethylamine  
640725-64-0, 1-[1-(4-Nitrophenyl)pyrrolidin-3-yl]-1H-imidazole  
RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of bis-paraphenylenediamines comprising pyrrolidine groups as

dyes for keratinic fibers)

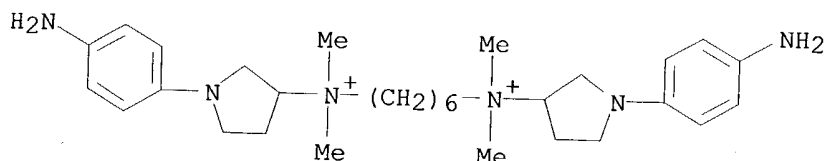
IT **667914-89-8P**

RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)

(intermediate; preparation of bis-paraphenylenediamines comprising pyrrolidine groups as dyes for **keratinic** fibers)

RN 667914-89-8 HCAPLUS

CN 1,6-Hexanediaminium, N,N'-bis[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N,N',N'-tetramethyl-, dichloride, dihydrochloride (9CI) (CA INDEX NAME)



●2 Cl<sup>-</sup>

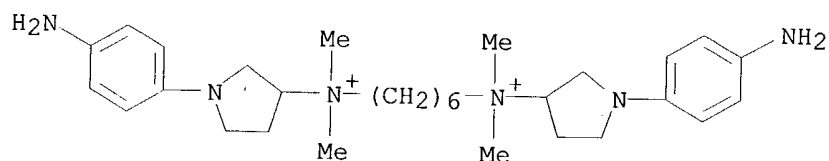
●2 HCl

IT **667914-94-5P 667915-09-5P**, N,N'-Bis[1-(4-aminophenyl)pyrrolidin-3-yl]-N,N,N',N'-tetramethylpropane-1,3-diaminium dichloride **667915-17-5P**, 1,3-Bis[3-[[1-(4-aminophenyl)pyrrolidin-3-yl]amino]propyl]-1H-imidazol-3-ium chloride **667915-18-6P**, N,N'-Bis[1-(4-aminophenyl)-5-(hydroxymethyl)pyrrolidin-3-yl]-N,N,N',N'-tetramethylhexane-1,6-diaminium dichloride **667915-19-7P 667915-20-0P 667915-21-1P**, N,N'-Bis[1-(4-aminophenyl)pyrrolidin-3-yl]butane-1,4-diamine **667915-23-3P**, N,N'-Bis[[1-(4-aminophenyl)-4-hydroxypyrrolidin-2-yl]methyl]-N,N,N',N'-tetramethylpropane-1,3-diaminium dichloride **667915-24-4P**, N,N'-Bis[1-(4-aminophenyl)pyrrolidin-3-yl]ethane-1,2-diamine  
RL: COS (Cosmetic use); **SPN (Synthetic preparation)**; BIOL (Biological study); **PREP (Preparation)**; USES (Uses)  
(oxidation base in dyeing; preparation of bis-paraphenylenediamines comprising

pyrrolidine groups as dyes for **keratinic** fibers)

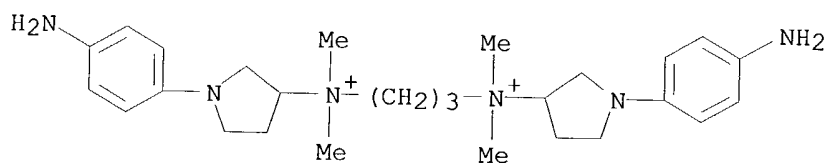
RN 667914-94-5 HCAPLUS

CN 1,6-Hexanediaminium, N,N'-bis[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl<sup>-</sup>

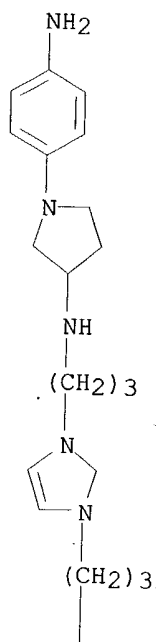
RN 667915-09-5 HCAPLUS  
CN 1,3-Propanediaminium, N,N'-bis[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



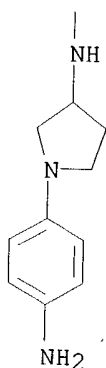
●2 Cl<sup>-</sup>

RN 667915-17-5 HCAPLUS  
CN 1H-Imidazolium, 1,3-bis[3-[[1-(4-aminophenyl)-3-pyrrolidinyl]amino]propyl]-, chloride (9CI) (CA INDEX NAME)

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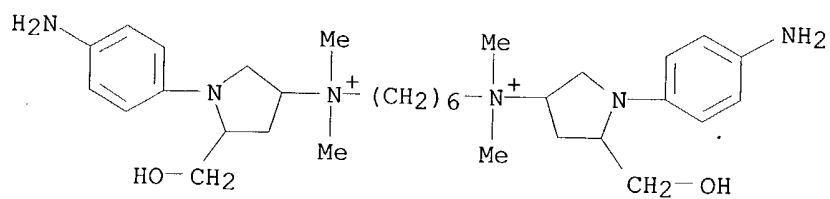


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 667915-18-6 HCAPLUS

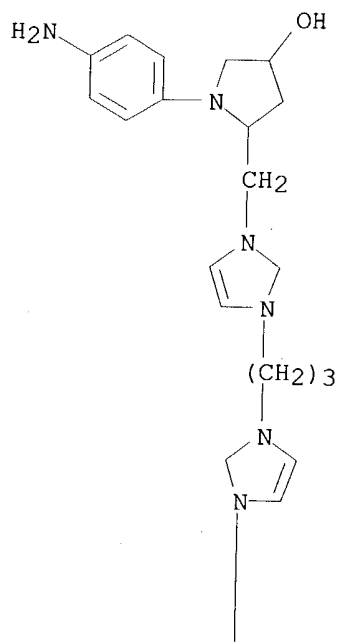
CN 1,6-Hexanediaminium, N,N'-bis[1-(4-aminophenyl)-5-(hydroxymethyl)-3-pyrrolidinyl]-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



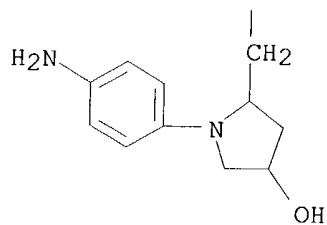
● 2 Cl<sup>-</sup>

RN 667915-19-7 HCAPLUS  
 CN 1H-Imidazolium, 1,1'-(1,3-propanediyl)bis[3-[[1-(4-aminophenyl)-4-hydroxy-2-pyrrolidinyl]methyl]- (9CI) (CA INDEX NAME)

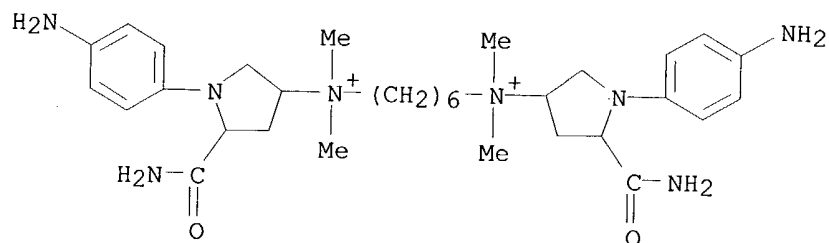
PAGE 1-A



PAGE 2-A



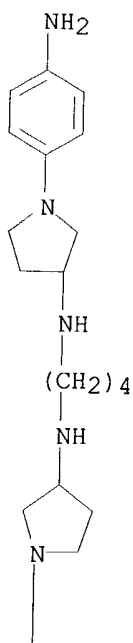
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
 RN 667915-20-0 HCAPLUS  
 CN 1,6-Hexanediaminium, N,N'-bis[5-(aminocarbonyl)-1-(4-aminophenyl)-3-pyrrolidinyl]-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



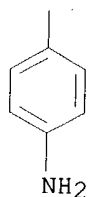
● 2 Cl<sup>-</sup>

RN 667915-21-1 HCAPLUS  
 CN 1,4-Butanediamine, N,N'-bis[1-(4-aminophenyl)-3-pyrrolidinyl]- (9CI) (CA INDEX NAME)

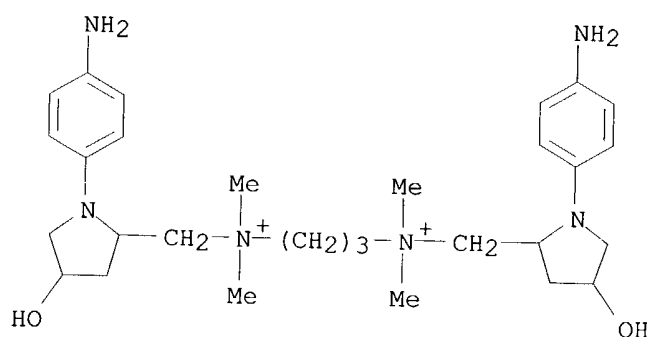
PAGE 1-A



PAGE 2-A



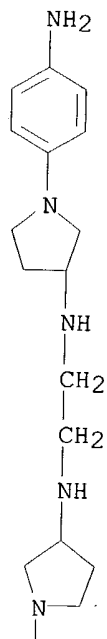
RN 667915-23-3 HCAPLUS  
 CN 1,3-Propanediaminium, N,N'-bis[[1-(4-aminophenyl)-4-hydroxy-2-pyrrolidinyl]methyl]-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



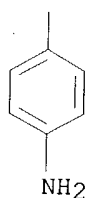
● 2 Cl<sup>-</sup>

RN 667915-24-4 HCAPLUS  
 CN 1,2-Ethanediamine, N,N'-bis[1-(4-aminophenyl)-3-pyrrolidinyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 16 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:17396 HCAPLUS  
DN 140:81854  
TI Hair dyeing compositions containing pyrrolidinyl-p-phenylenediamine derivatives  
IN Sabelle, Stephane; Ramos, Laure; Leduc, Madeleine  
PA L'Oreal, Fr.  
SO Eur. Pat. Appl., 21 pp.  
CODEN: EPXXDW  
DT Patent  
LA French  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1378230	A1	20040107	EP 2003-291616	20030701

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

FR 2841780	A1	20040109	FR 2002-8514	20020705
FR 2841780	B1	20040910		
JP 2004035559	A2	20040205	JP 2003-271500	20030707
US 2004077852	A1	20040422	US 2003-612986	20030707
PRAI FR 2002-8514	A	20020705		
US 2002-408900P	P	20020909		

OS MARPAT 140:81854

AB Pyrrolidinyl-p-phenylenediamine derivs. are useful for the dyeing of human hair fibers. Thus, 4-(3-imidazol-1-ylpyrrolidin-1-yl)phenylamine-HCl was prepared by the mesylation of N-(4-nitrophenyl)-3-hydroxypyrrolidine in THF in the presence of Et3N followed by the reaction of the product with imidazole and hydrogenation. A formulation contained the above compound 0.001, 2-(2,4-diaminophenoxyethanol)-2HCl 0.001, a support formulation and water qs to 100 g.

IC ICM A61K007-13  
ICS C07D207-10; C07D233-56; C07D231-12; C07D243-08; C07D249-08;  
C07D295-088; C07D295-125

CC 62-3 (Essential Oils and Cosmetics)  
Section cross-reference(s): 28

ST hair dye phenylenediamine pyrrolidinyl

IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(diamines, Ph group-containing; hair dyeing compns. containing pyrrolidinylphenylenediamine derivs.)

IT Hair preparations  
(dyes; hair dyeing compns. containing pyrrolidinylphenylenediamine derivs.)

IT Hair  
Human  
Oxidizing agents  
(hair dyeing compns. containing pyrrolidinylphenylenediamine derivs.)

IT Bromates  
Peroxy acids  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. containing pyrrolidinylphenylenediamine derivs.)

IT 95-55-6D, o-Aminophenol, derivs. 108-45-2D, m-Phenylenediamine, derivs.  
123-30-8D, p-Aminophenol, derivs. 591-27-5D, m-Aminophenol, derivs.  
612-76-0D, m-Diphenol, derivs. 2380-86-1, 1H-Indol-6-ol 2835-95-2  
7722-84-1, Hydrogen peroxide, biological studies 9035-73-8, Oxidase  
16867-03-1, 2-Aminopyridin-3-ol 30569-52-9 66422-95-5 80419-48-3  
640725-42-4 640725-44-6 640725-45-7 640725-46-8 640725-47-9  
640725-48-0 640725-49-1 640725-50-4 640725-52-6 640725-53-7  
640725-54-8 640725-55-9 640725-56-0 640725-57-1 640725-58-2  
640725-59-3 640725-60-6 640725-61-7 640725-62-8  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. containing pyrrolidinylphenylenediamine derivs.)

IT 640725-40-2P 640725-43-5P 640725-51-5P 640725-65-1P  
640725-66-2P 640725-68-4P  
RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL  
(Biological study); PREP (Preparation); USES (Uses)  
(hair dyeing compns. containing pyrrolidinylphenylenediamine derivs.)

IT 123-75-1, Pyrrolidine, reactions 288-32-4, Imidazole, reactions  
350-46-9, 4-Fluoronitrobenzene 5036-48-6, 1H-Imidazole-1-propanamine  
40499-83-0, 3-Hydroxypyrrolidine  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hair dyeing compns. containing pyrrolidinylphenylenediamine derivs.)

IT 361346-55-6P 607354-89-2P 640725-63-9P 640725-64-0P 640725-67-3P

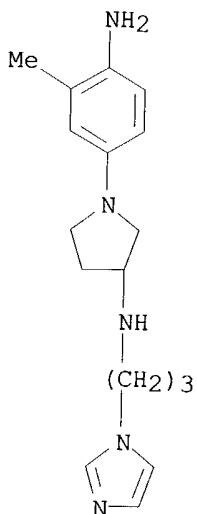
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(hair dyeing comps. containing pyrrolidinylphenylenediamine derivs.)

IT 640725-51-5P 640725-68-4P

RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL  
(Biological study); PREP (Preparation); USES (Uses)  
(hair dyeing comps. containing pyrrolidinylphenylenediamine  
derivs.)

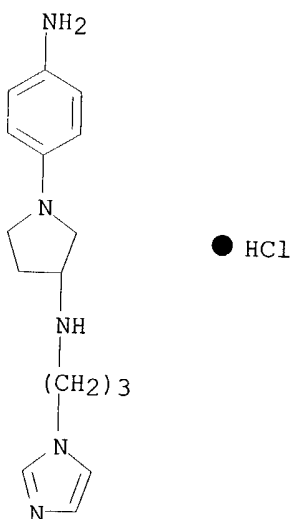
RN 640725-51-5 HCAPLUS

CN 1H-Imidazole-1-propanamine, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-  
(9CI) (CA INDEX NAME)



RN 640725-68-4 HCAPLUS

CN 1H-Imidazole-1-propanamine, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-,  
monohydrochloride (9CI) (CA INDEX NAME)



RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 17 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:5171 HCAPLUS

DN 140:59513

TI Preparation of p-aminophenylsilylpyrrolidines as dyes for  
**keratinic** fibers, in particular human **hair** fibers

IN Sabelle, Stephane; Ramos, Laure; Leduc, Madeleine

PA L'Oreal, Fr.

SO Eur. Pat. Appl., 16 pp.

CODEN: EPXXDW

DT Patent

LA French

FAN.CNT 1

*applicants*

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1375480	A1	20040102	EP 2003-291436	20030613
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2841553	A1	20040102	FR 2002-7939	20020626
	JP 2004051632	A2	20040219	JP 2003-183037	20030626
	US 2004060127	A1	20040401	US 2003-603831	20030626
PRAI	FR 2002-7939	A	20020626		
	US 2002-408899P	P	20020909		
OS	MARPAT 140:59513				
GI					

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Title compds. I [wherein n = 0-4; R1 = halo, (un)substituted (un)saturated aliphatic or alicyclic chain with at least one C optionally replaced by one or more O, N, Si, S, SO<sub>2</sub>; R1 never include peroxide bond, diazo, NO<sub>2</sub>, or NO; when n > 2, R1 radicals can be identical or different; R2 = SiR<sub>3</sub>R<sub>4</sub>R<sub>5</sub>, (un)substituted unsatd., linear or branch alkyl, substituted with -SiR<sub>3</sub>R<sub>4</sub>R<sub>5</sub> with at least one C optionally replaced by one or more O and/or N, triarylsilyl, triarylsilylalkyl, triarylsilylalkoxy, triarylsilylalkylamino, bis(triarylsilylalkyl)amino; R3, R4, R5 = independently trialkylsilyl, triphenylsilyl, Ph, (un)substituted alkyl; and their addition salts; with the exception of 5-amino-2-((3R)-3-tert-butylidimethylsilyloxy-1-pyrrolidinyl)fluorobenzene] were prepared as oxidation bases for dyeing **keratinous** fibers, in particular human **hair** fibers. Thus, reacting 1-fluoro-4-nitrobenzene with 3-pyrrolidinol in dioxane/water, followed by O-alkylation with 3-chloropropyltrimethylsilane in DMF and reduction with Zn/NH<sub>4</sub>Cl in ethanol afforded II•2HCl. Formulations of II in alkaline medium gave blue-violet shades.

IC ICM C07D207-12

ICS C07D207-10; C07D207-08; A61K007-13; C07D207-14; C07F007-10

CC 27-10 (Heterocyclic Compounds (One Hetero Atom))

Section cross-reference(s): 62

ST aminophenylsilylpyrrolidine prepn **hair** dye **keratin** fiber; pyrrolidine amine prepn **hair** dye

IT Amines, preparation

RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological

study); PREP (Preparation); USES (Uses)  
 (aryl, heterocyclic, oxidative base in dyeing; preparation of  
 p-aminophenylsilylpyrrolidines as dyes for **keratinic** fibers,  
 in particular human **hair** fibers)

IT **Hair** preparations  
 Human

(preparation of p-aminophenylsilylpyrrolidines as dyes for **keratinic**  
 fibers, in particular human **hair** fibers)

IT 361346-55-6P, 1-(4-Nitrophenyl)pyrrolidin-3-ol 638564-18-8P,  
 N-(4-Nitrophenyl)-3-(3-trimethylsilylpropoxy)pyrrolidine  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)

(intermediate; preparation of p-aminophenylsilylpyrrolidines as dyes for  
**keratinic** fibers, in particular human **hair** fibers)

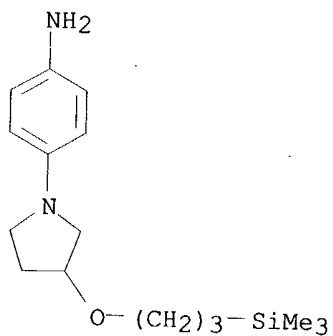
IT 638564-17-7P 638564-19-9P, 4-[3-(3-  
 Trimethylsilylpropoxy)pyrrolidin-1-yl]phenylamine 638564-20-2P,  
 4-(3-Trimethylsilylpyrrolidin-1-yl)phenylamine 638564-21-3P,  
 4-[3-(((Trimethylsilyl)methyl)oxy)pyrrolidin-1-yl]phenylamine  
 638564-22-4P, 4-[3-(((Trimethylsilyl)methyl)amino)pyrrolidin-1-  
 yl]phenylamine 638564-23-5P, 4-[3-((Trimethylsilyl)methyl)pyrrol  
 idin-1-yl]phenylamine 638564-24-6P, [1-(4-Aminophenyl)pyrrolidin-  
 3-yl]-bis(trimethylsilylmethyl)amine 638564-25-7P,  
 2-(2-Trimethylsilylethyl)-4-[3-(3-trimethylsilylpropoxy)pyrrolidin-1-  
 yl]phenylamine 638564-26-8P, 4-[3-(2-  
 Trimethylsilylethoxy)pyrrolidin-1-yl]phenylamine 638564-27-9P,  
 4-[3-(3-Triphenylsilylpropoxy)pyrrolidin-1-yl]phenylamine  
 RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL  
 (Biological study); PREP (Preparation); USES (Uses)  
 (oxidation base in dyeing; preparation of p-aminophenylsilylpyrrolidines as  
 dyes for **keratinic** fibers, in particular human **hair**  
 fibers)

IT 350-46-9, 1-Fluoro-4-nitrobenzene 2344-83-4, 3-  
 Chloropropyltrimethylsilane  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of p-aminophenylsilylpyrrolidines as dyes for **keratinic**  
 fibers, in particular human **hair** fibers)

IT 638564-17-7P 638564-19-9P, 4-[3-(3-  
 Trimethylsilylpropoxy)pyrrolidin-1-yl]phenylamine 638564-20-2P,  
 4-(3-Trimethylsilylpyrrolidin-1-yl)phenylamine 638564-21-3P,  
 4-[3-(((Trimethylsilyl)methyl)oxy)pyrrolidin-1-yl]phenylamine  
 638564-22-4P, 4-[3-(((Trimethylsilyl)methyl)amino)pyrrolidin-1-  
 yl]phenylamine 638564-23-5P, 4-[3-((Trimethylsilyl)methyl)pyrrol  
 idin-1-yl]phenylamine 638564-24-6P, [1-(4-Aminophenyl)pyrrolidin-  
 3-yl]-bis(trimethylsilylmethyl)amine 638564-25-7P,  
 2-(2-Trimethylsilylethyl)-4-[3-(3-trimethylsilylpropoxy)pyrrolidin-1-  
 yl]phenylamine 638564-26-8P, 4-[3-(2-  
 Trimethylsilylethoxy)pyrrolidin-1-yl]phenylamine 638564-27-9P,  
 4-[3-(3-Triphenylsilylpropoxy)pyrrolidin-1-yl]phenylamine  
 RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL  
 (Biological study); PREP (Preparation); USES (Uses)  
 (oxidation base in dyeing; preparation of p-aminophenylsilylpyrrolidines as  
 dyes for **keratinic** fibers, in particular human **hair**  
 fibers)

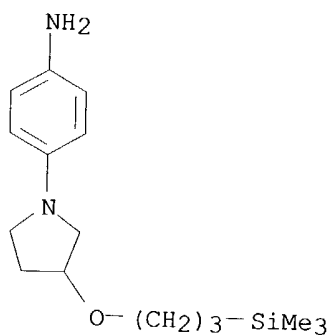
RN 638564-17-7 HCAPLUS

CN Benzenamine, 4-[3-[3-(trimethylsilyl)propoxy]-1-pyrrolidinyl]-,  
 dihydrochloride (9CI) (CA INDEX NAME)

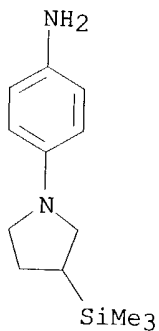


● 2 HCl

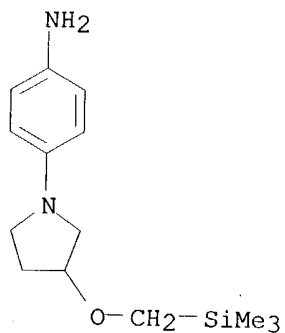
RN 638564-19-9 HCAPLUS  
CN Benzenamine, 4-[3-[3-(trimethylsilyl)propoxy]-1-pyrrolidinyl]- (9CI) (CA INDEX NAME)



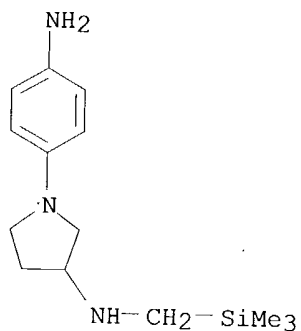
RN 638564-20-2 HCAPLUS  
CN Benzenamine, 4-[3-(trimethylsilyl)-1-pyrrolidinyl]- (9CI) (CA INDEX NAME)



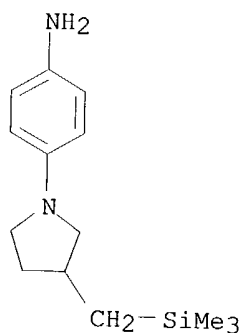
RN 638564-21-3 HCAPLUS  
CN Benzenamine, 4-[3-[(trimethylsilyl)methoxy]-1-pyrrolidinyl]- (9CI) (CA INDEX NAME)



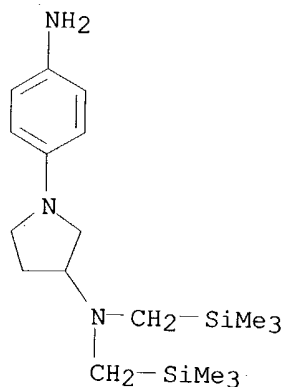
RN 638564-22-4 HCAPLUS  
 CN 3-Pyrrolidinamine, 1-(4-aminophenyl)-N-[(trimethylsilyl)methyl]- (9CI)  
 (CA INDEX NAME)



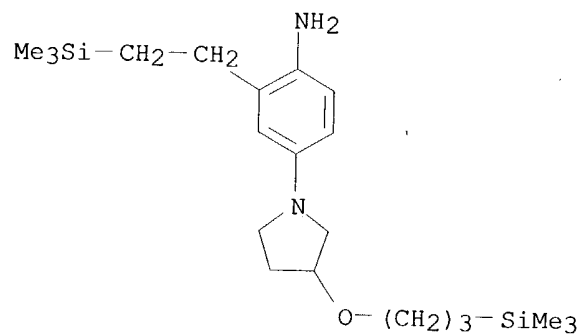
RN 638564-23-5 HCAPLUS  
 CN Benzenamine, 4-[3-[(trimethylsilyl)methyl]-1-pyrrolidinyl]- (9CI) (CA  
 INDEX NAME)



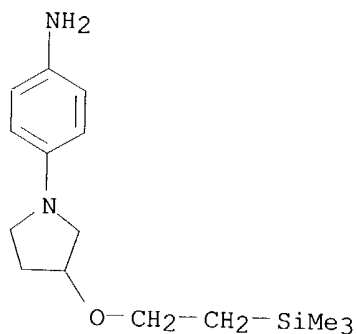
RN 638564-24-6 HCAPLUS  
 CN 3-Pyrrolidinamine, 1-(4-aminophenyl)-N,N-bis[(trimethylsilyl)methyl]-  
 (9CI) (CA INDEX NAME)



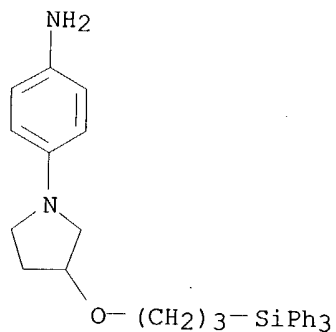
RN 638564-25-7 HCAPLUS  
 CN Benzenamine, 2-[2-(trimethylsilyl)ethyl]-4-[3-[3-(trimethylsilyl)propoxy]-1-pyrrolidinyl]- (9CI) (CA INDEX NAME)



RN 638564-26-8 HCAPLUS  
 CN Benzenamine, 4-[3-[2-(trimethylsilyl)ethoxy]-1-pyrrolidinyl]- (9CI) (CA INDEX NAME)



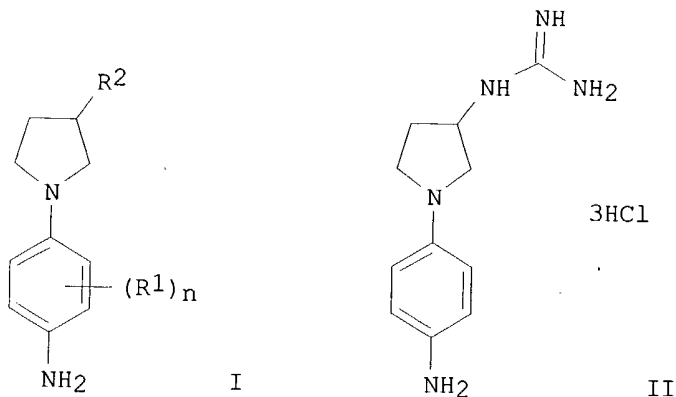
RN 638564-27-9 HCAPLUS  
 CN Benzenamine, 4-[3-[3-(trimethylsilyl)propoxy]-1-pyrrolidinyl]- (9CI) (CA INDEX NAME)



RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 18 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:771366 HCAPLUS  
DN 139:276814  
TI Preparation of aminophenylpyrrolidines as dyes for **keratinic**  
fibers  
IN Sabelle, Stephane; Ramos, Laure; Leduc, Madeleine; Philippe, Michel  
PA L'Oreal, Fr.  
SO Eur. Pat. Appl., 4 pp.  
CODEN: EPXXDW  
DT Patent  
LA French  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1348695	A1	20031001	EP 2003-290597	20030311
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2837821	A1	20031003	FR 2002-3847	20020327
	JP 2003286256	A2	20031010	JP 2003-89390	20030327
	US 2003229949	A1	20031218	US 2003-397245	20030327
PRAI	FR 2002-3847	A	20020327		
	US 2002-387499P	P	20020611		
OS	MARPAT 139:276814				
GI					



AB Aminophenylpyrrolidines I [R1 = halogen, (un)substituted alkyl, onium; n = 0-4; R2 = quaternary ammonium] were prepared for use as **hair** dyes. Thus, 4-FC6H4NO2 was treated with 3-acetylaminopyrrolidine, followed by deacetylation, conversion to guanidine, and reduction to give the dye II, which gave blue-violet shades in alkaline medium.

IC ICM C07D207-14  
ICS C07D521-00; A61K007-13; C07F009-09; C07D417-04; C07D401-04; C07D487-08

CC 27-10 (Heterocyclic Compounds (One Hetero Atom))  
Section cross-reference(s): 62

ST aminophenylpyrrolidine prepn **hair** dye

IT **Hair** preparations  
(dyes; preparation of aminophenylpyrrolidines as dyes for **keratinic** fibers)

IT 607354-86-9P **607354-88-1P** 607354-93-8P 607354-98-3P  
607355-02-2P 607355-05-5P 607355-09-9P **607355-10-2P**  
**607355-11-3P** 607355-12-4P **607355-13-5P**  
**607355-14-6P** **607355-15-7P** 607355-16-8P  
**607355-17-9P** 607355-18-0P 607355-19-1P 607355-20-4P  
607355-21-5P **607355-22-6P** **607355-23-7P**  
**607355-24-8P** **607355-25-9P**  
RL: COS (Cosmetic use); **SPN (Synthetic preparation)**; BIOL  
(Biological study); **PREP (Preparation)**; USES (Uses)  
(preparation of aminophenylpyrrolidines as dyes for **keratinic** fibers)

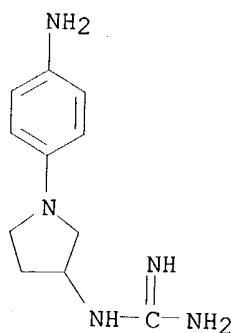
IT 110-86-1, Pyridine, reactions 123-75-1, Pyrrolidine, reactions  
280-57-9, 1,4-Diazabicyclo[2.2.2]octane 288-47-1, Thiazole 350-46-9,  
1-Fluoro-4-nitrobenzene 446-33-3, 5-Fluoro-2-nitrotoluene 616-47-7,  
1-Methylimidazole 40499-83-0, 3-Pyrrolidinol 79286-74-1,  
3-Acetylaminopyrrolidine  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of aminophenylpyrrolidines as dyes for **keratinic** fibers)

IT 218944-30-0P 361346-42-1P 361346-55-6P 361346-63-6P 607354-82-5P  
607354-84-7P 607354-85-8P 607354-87-0P 607354-89-2P 607354-91-6P  
607354-92-7P 607354-94-9P 607354-96-1P 607354-97-2P 607355-00-0P  
607355-03-3P 607355-07-7P  
RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT  
(Reactant or reagent)  
(preparation of aminophenylpyrrolidines as dyes for **keratinic** fibers)

IT **607354-88-1P** **607355-10-2P** **607355-11-3P**  
**607355-13-5P** **607355-14-6P** **607355-15-7P**  
**607355-17-9P** **607355-22-6P** **607355-23-7P**  
**607355-24-8P** **607355-25-9P**  
RL: COS (Cosmetic use); **SPN (Synthetic preparation)**; BIOL  
(Biological study); **PREP (Preparation)**; USES (Uses)  
(preparation of aminophenylpyrrolidines as dyes for **keratinic** fibers)

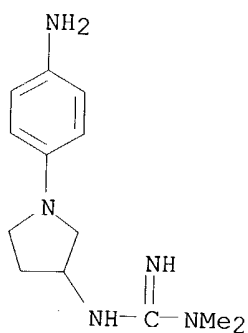
RN 607354-88-1 HCAPLUS

CN Guanidine, [1-(4-aminophenyl)-3-pyrrolidinyl]-, trihydrochloride (9CI)  
(CA INDEX NAME)

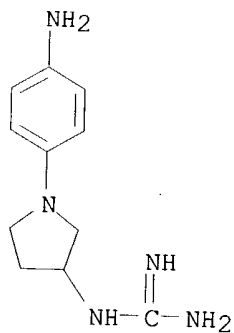


● 3 HCl

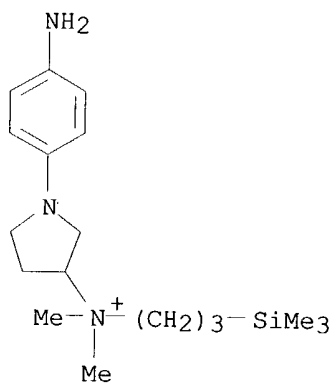
RN 607355-10-2 HCAPLUS  
CN Guanidine, N'-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N-dimethyl- (9CI) (CA INDEX NAME)



RN 607355-11-3 HCAPLUS  
CN Guanidine, [1-(4-aminophenyl)-3-pyrrolidinyl]- (9CI) (CA INDEX NAME)

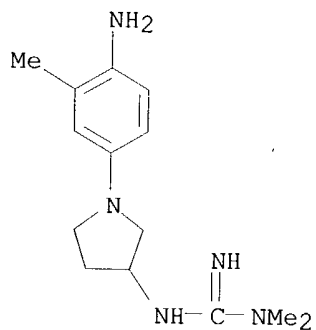


RN 607355-13-5 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

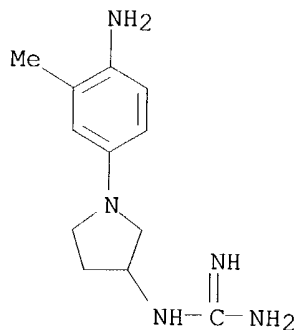


●  $\text{Cl}^-$

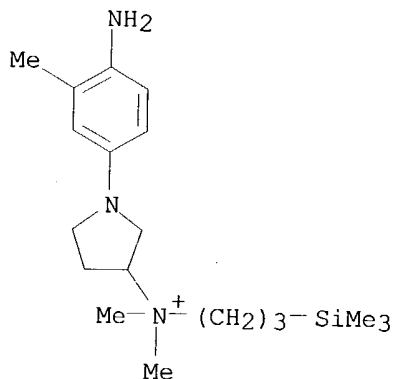
RN 607355-14-6 HCAPLUS  
 CN Guanidine, N'-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-N,N-dimethyl-  
 (9CI) (CA INDEX NAME)



RN 607355-15-7 HCAPLUS  
 CN Guanidine, [1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]- (9CI) (CA INDEX  
 NAME)

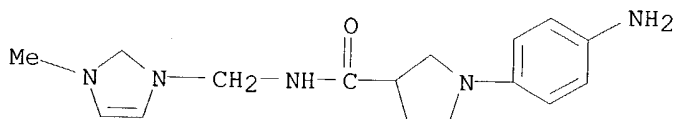


RN 607355-17-9 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

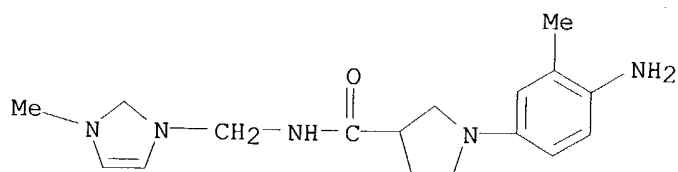
RN 607355-22-6 HCAPLUS  
 CN 1H-Imidazolium, 1-[[[1-(4-aminophenyl)-3-pyrrolidinyl]carbonyl]amino]methyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-23-7 HCAPLUS  
 CN 1H-Imidazolium, 1-[[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]carbonyl]amino]methyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

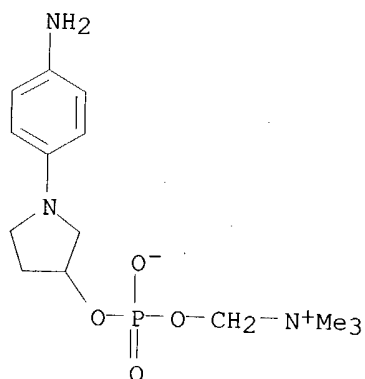


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

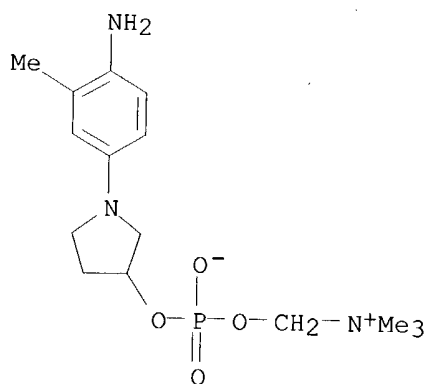
RN 607355-24-8 HCAPLUS

CN Methanaminium, 1-[[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]hydroxyphosphiny  
l]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)



RN 607355-25-9 HCAPLUS

CN Methanaminium, 1-[[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]hydroxyphosphiny  
l]oxy]-N,N,N-trimethyl-, inner salt (9CI)  
(CA INDEX NAME)



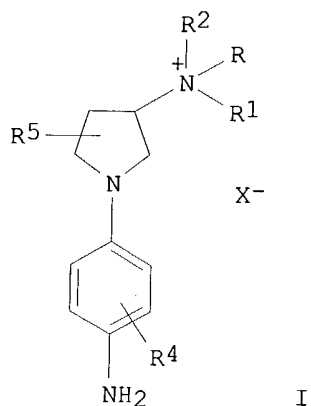
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

## ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 19 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2002:768546 HCAPLUS  
 DN 137:283939  
 TI Quaternized pyrrolidines as primary intermediates for oxidative coloration of hair  
 IN Lim, Mu-Ill; Pan, Yuh-Guo  
 PA Clairol Incorporated, USA  
 SO U.S., 72 pp., Cont.-in-part of U.S. Ser. No. 874,080, abandoned.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6461391	B1	20021008	US 2001-11804	20011205
	US 2002106341	A1	20020808	US 2000-730707	20001206
	US 6521761	B2	20030218		
PRAI	US 2000-730707	A2	20001206		
	US 2001-874080	B2	20010606		
OS	MARPAT 137:283939				
GI					



AB Primary intermediates useful in hair coloring systems comprise quaternized pyrrolidine compds. (I; R,R3 = C1-22 alkyl or hydroxyalkyl; R1,R2 = C1-4 alkyl; R4 = H, C1-5 alkyl or alkyl substituted with hydroxy or amino moieties; R5 = H, OH; X = Cl, Br, I, R3SO4). For example, [1-(4-nitrophenyl)pyrrolidin-3-yl]dimethylamine (470 mg) reacted with Me iodide (567 mg) to give 1-(4-nitrophenyl)-N,N,N-trimethylpyrrolidin-3-aminium iodide (894 mg, 92% yield), which was then hydrogenated to produce 1-(4-aminophenyl)-N,N,N-trimethylpyrrolidin-3-aminium iodide (505 mg, 95% yield). A hair coloring composition contained the primary intermediate and the coupler (0.025 M each) in a base consisting of cocamidopropylbetaine 17 g, monoethanol amine 2 g, oleic acid 0.75 g, citric acid 0.1 g, ammonium hydroxide (28%) 5 g, behentrimonium chloride 0.5 g and water to 100 g.

IC ICM A61K007-13  
 NCL 008405000  
 CC 62-3 (Essential Oils and Cosmetics)  
 Section cross-reference(s): 27

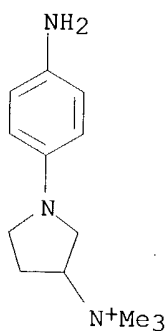
- ST pyrrolidine quaternary ammonium prepn primary intermediate oxidative hair coloring
- IT Hair preparations  
(dyes, oxidative; oxidative hair coloring systems containing quaternized pyrrolidine compds. as primary intermediates)
- IT Oxidizing agents  
(oxidative hair coloring systems containing quaternized pyrrolidine compds. as primary intermediates)
- IT Quaternary ammonium compounds, biological studies  
RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(pyrrolidine-containing; oxidative hair coloring systems containing quaternized pyrrolidine compds. as primary intermediates)
- IT 90-15-3, 1-Naphthalenol 95-55-6, 2-Aminophenol 95-70-5, 2-Methylbenzene-1,4-diamine 95-88-5, 4-Chlorobenzene-1,3-diol 106-50-3, Benzene-1,4-diamine, biological studies 108-46-3, Benzene-1,3-diol, biological studies 123-30-8, 4-Aminophenol 150-75-4, 4-Methylaminophenol 591-27-5, 3-Aminophenol 608-25-3, 2-Methylbenzene-1,3-diol 1004-74-6, Pyrimidinetetramine 2380-86-1, 1H-Indol-6-ol 2835-95-2, 5-Amino-2-methylphenol 2835-98-5, 2-Amino-5-methylphenol 2835-99-6, 4-Amino-3-methylphenol 7469-77-4, 2-Methyl-1-naphthalenol 7575-35-1 7722-84-1, Hydrogen peroxide, biological studies 16867-03-1, 2-Aminopyridin-3-ol 17672-22-9, 2-Amino-6-methylphenol 26021-57-8, 3,4-Dihydro-2H-1,4-benzoxazin-6-ol 41927-22-4, 4-Methyl-2-phenyl-2,4-dihydro-3H-pyrazol-3-one 53222-92-7, 3-Amino-2-methylphenol 55302-96-0, 5-(2-Hydroxyethylamino)-2-methylphenol 70643-19-5, 2-(2,4-Diaminophenoxy)ethanol 83763-47-7 93841-24-8, 2-(2,5-Diaminophenyl)ethanol 94082-77-6 129697-50-3 155601-17-5 220264-60-8 307493-94-3, 3-(2,4-Diaminophenoxy)propan-1-ol 329320-36-7, 1-(2,5-Diaminophenyl)ethanol  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(oxidative hair coloring systems containing quaternized pyrrolidine compds. as primary intermediates)
- IT **466651-65-0P**  
RL: COS (Cosmetic use); **SPN (Synthetic preparation)**; BIOL (Biological study); **PREP (Preparation)**; USES (Uses)  
(oxidative hair coloring systems containing quaternized pyrrolidine compds. as primary intermediates)
- IT 361346-46-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of quaternized pyrrolidine compds. as primary intermediates for oxidative hair)
- IT 435275-76-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation of quaternized pyrrolidine compds. as primary intermediates for oxidative hair)
- IT **435275-60-8P 435275-61-9P 435275-62-0P 435275-64-2P 435275-65-3P 435275-66-4P 435275-67-5P 435275-68-6P 435275-69-7P 435275-70-0P 435275-71-1P 435275-72-2P 435275-73-3P 435275-74-4P 435275-75-5P 435275-82-4P 466651-63-8P 466651-64-9P**  
RL: COS (Cosmetic use); **SPN (Synthetic preparation)**; BIOL (Biological study); **PREP (Preparation)**; USES (Uses)  
(preparation of quaternized pyrrolidine compds. as primary intermediates for oxidative hair coloration)
- IT **466651-65-0P**

RL: COS (Cosmetic use); **SPN (Synthetic preparation)**; BIOL  
(Biological study); **PREP (Preparation)**; USES (Uses)  
(oxidative **hair** coloring systems containing quaternized  
pyrrolidine compds. as primary intermediates)

RN 466651-65-0 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, methyl sulfate  
(9CI) (CA INDEX NAME)

CM 1

CRN 435275-83-5  
CMF C13 H22 N3



CM 2

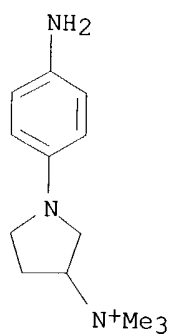
CRN 21228-90-0  
CMF C H3 O4 S

Me-O-SO<sub>3</sub><sup>-</sup>

IT 435275-60-8P 435275-61-9P 435275-62-0P  
435275-64-2P 435275-65-3P 435275-66-4P  
435275-67-5P 435275-68-6P 435275-69-7P  
435275-70-0P 435275-71-1P 435275-72-2P  
435275-73-3P 435275-74-4P 435275-75-5P  
435275-82-4P 466651-63-8P 466651-64-9P

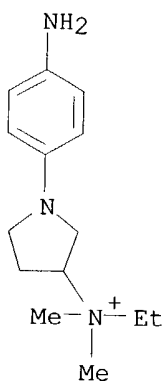
RL: COS (Cosmetic use); **SPN (Synthetic preparation)**; BIOL  
(Biological study); **PREP (Preparation)**; USES (Uses)  
(preparation of quaternized pyrrolidine compds. as primary intermediates for  
oxidative **hair** coloration)

RN 435275-60-8 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, iodide (9CI) (CA  
INDEX NAME)



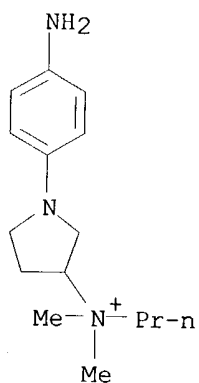
● I<sup>-</sup>

RN 435275-61-9 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-62-0 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, iodide  
(9CI) (CA INDEX NAME)

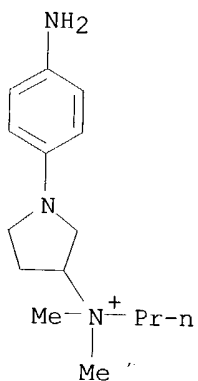


● I<sup>-</sup>

RN 435275-64-2 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, propyl sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 435275-63-1  
 CMF C15 H26 N3



CM 2

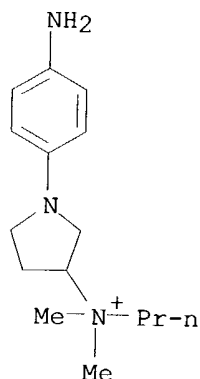
CRN 72640-73-4  
 CMF C3 H7 O4 S

n-Pr-O-SO<sub>3</sub><sup>-</sup>

RN 435275-65-3 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, bromide

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

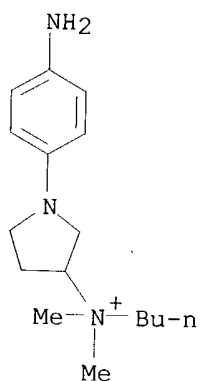
(9CI) (CA INDEX NAME)



● Br<sup>-</sup>

RN 435275-66-4 HCAPLUS

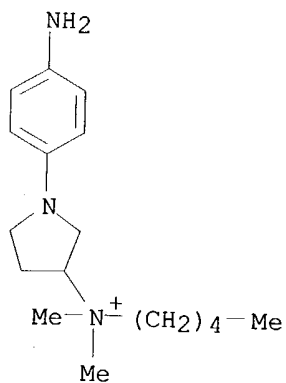
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-butyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

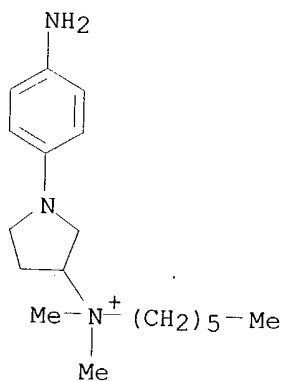
RN 435275-67-5 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-pentyl-, iodide  
(9CI) (CA INDEX NAME)



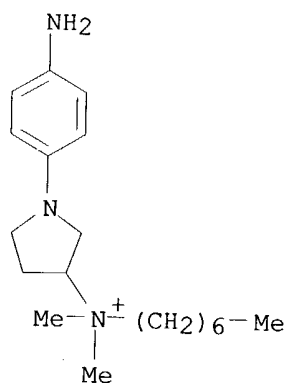
● I<sup>-</sup>

RN 435275-68-6 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



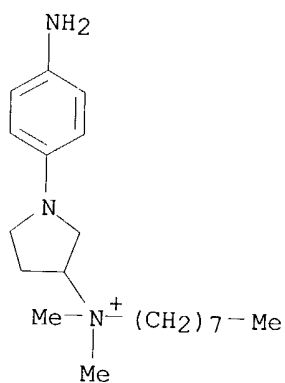
● I<sup>-</sup>

RN 435275-69-7 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-heptyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



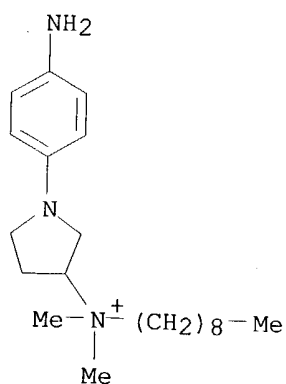
● I<sup>-</sup>

RN 435275-70-0 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-octyl-, iodide (9CI)  
(CA INDEX NAME)



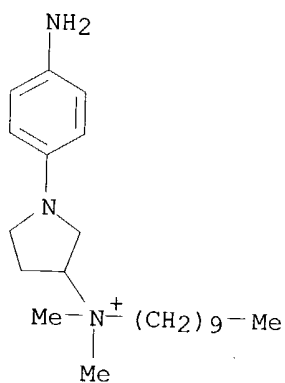
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RN 435275-71-1 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-nonyl-, iodide (9CI)  
(CA INDEX NAME)



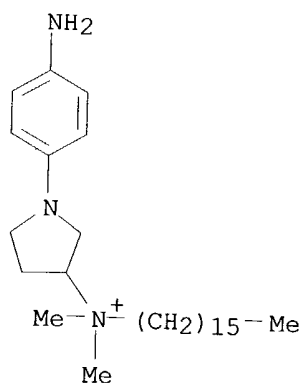
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RN 435275-72-2 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-decyl-N,N-dimethyl-, iodide (9CI)  
 (CA INDEX NAME)



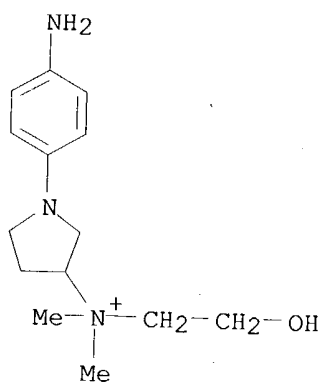
● I<sup>-</sup>

RN 435275-73-3 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexadecyl-N,N-dimethyl-, iodide  
 (9CI) (CA INDEX NAME)



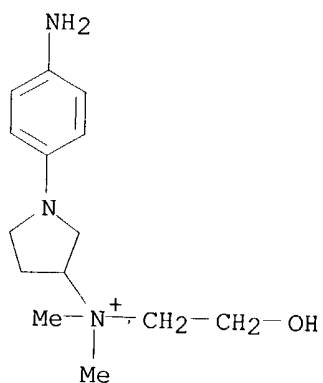
● I<sup>-</sup>

RN 435275-74-4 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-,  
 iodide (9CI) (CA INDEX NAME)



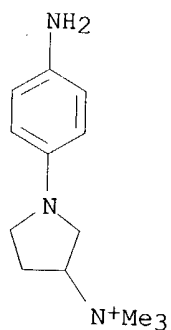
● I<sup>-</sup>

RN 435275-75-5 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-,  
 bromide (9CI) (CA INDEX NAME)



● Br<sup>-</sup>

RN 435275-82-4 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, chloride (9CI)  
 (CA INDEX NAME)

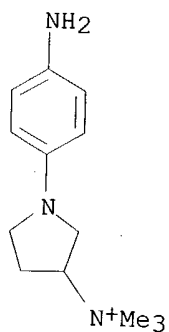


● Cl<sup>-</sup>

RN 466651-63-8 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, sulfate (1:1)  
 (9CI) (CA INDEX NAME)

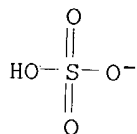
CM 1

CRN 435275-83-5  
 CMF C13 H22 N3



CM 2

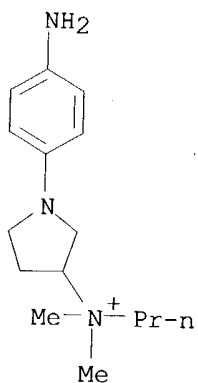
CRN 14996-02-2  
CMF H O4 S



RN 466651-64-9 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, sulfate  
(1:1) (9CI) (CA INDEX NAME)

CM 1

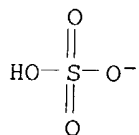
CRN 435275-63-1  
CMF C15 H26 N3



CM 2

CRN 14996-02-2

CMF H O4 S



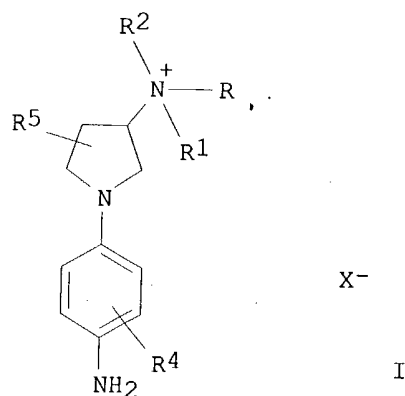
RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 20 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:449467 HCAPLUS  
DN 137:37379  
TI Primary intermediates for oxidative coloration of hair  
IN Lim, Mu-Ill; Pan, Yluh-Guo  
PA Clairol Incorporated, USA  
SO PCT Int. Appl., 77 pp.  
CODEN: PIXXD2

DT Patent  
LA English

FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002045675	A1	20020613	WO 2001-US47532	20011205
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2002106341	A1	20020808	US 2000-730707	20001206
US 6521761	B2	20030218		
AU 2002027330	A5	20020618	AU 2002-27330	20011205
EP 1414392	A1	20040506	EP 2001-996192	20011205
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
JP 2004514729	T2	20040520	JP 2002-547461	20011205
PRAI US 2000-730707	A	20001206		
US 2001-874080	A	20010606		
WO 2001-US47532	W	20011205		
OS MARPAT 137:37379				
GI				



- AB Primary intermediates useful hair coloring systems comprise quaternized pyrrolidine compds. The invention provides new quaternized pyrrolidine of formula (I): wherein X is Cl, Br, I, or R<sub>3</sub>SO<sub>4</sub>; R is a C1 to C22 alkyl group or a C1 to C22 mono or dihydroxyalkyl group; R<sub>1</sub> and R<sub>2</sub> are each independently a C1 to C4 alkyl group; R<sub>3</sub> is a C1 to C22 alkyl group or a C1 to C22 mono or dihydroxyalkyl group; R<sub>4</sub> is a hydrogen atom, a C1 to C5 alkyl group or such an alkyl group substituted with one or more hydroxy or amino moieties; and R<sub>5</sub> is a hydrogen atom or a hydroxy group. Thus, 1-(4-aminophenyl)-N,N,N-trimethylpyrrolidin-3-aminium iodide (II) was prepared by the reaction of [1-(4-nitrophenyl)-pyrrolidin-3-yl]dimethylamine with Me iodide and hydrogenation of the resulting 1-(4-nitrophenyl)-N,N,N-trimethylpyrrolidin-3-aminium iodide. The color produced by combination of II with various couplers such as resorcinol, m-aminophenol, 5-aminophenol, and 2,4-diaminophenoxyethanol is reported.
- IC ICM A61K007-13  
ICS C07C211-00; C07C217-84
- CC 62-3 (Essential Oils and Cosmetics)  
Section cross-reference(s): 27
- ST primary intermediate oxidative coloration hair
- IT Hair preparations  
(dyes, oxidative; primary intermediates for oxidative coloration of hair)
- IT Oxidizing agents  
(primary intermediates for oxidative coloration of hair)
- IT 90-15-3, 1-Naphthalenol 95-55-6, 2-Aminophenol 95-70-5,  
2-Methylbenzene-1,4-diamine 95-88-5, 4-ChloroBenzene-1,3-diol  
106-50-3, Benzene-1,4-diamine, biological studies 108-46-3,  
Benzene-1,3-diol, biological studies 123-30-8, 4-Aminophenol  
123-75-1D, Pyrrolidine, quaternized derivs. 150-75-4,  
4-Methyl-aminophenol 591-27-5, 3-Aminophenol 608-25-3 1004-74-6,  
Pyrimidinetetramine 2380-86-1, 1H-Indol-6-ol 2835-95-2,  
5-Amino-2-methylphenol 2835-98-5, 2-Amino-5-methylphenol 2835-99-6  
7469-77-4 16867-03-1, 2-Aminopyridin-3-ol 17672-22-9 26021-57-8,  
3,4-Dihydro-2H-1,4-Benzoxazin-6-ol 41927-22-4, 4-Methyl-2-phenyl-2,4-  
dihydro-3H-pyrazol-3-one 53222-92-7, 3-Amino-2-methylphenol  
55302-96-0, 5-(2-Hydroxyethylamino)-2-methylphenol 83763-47-7  
93841-24-8 94082-77-6 126335-43-1 129697-50-3 155601-17-5  
220264-60-8 307493-94-3 329320-36-7 402940-99-2 435275-82-4  
435275-84-6
- RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(primary intermediates for oxidative coloration of hair)

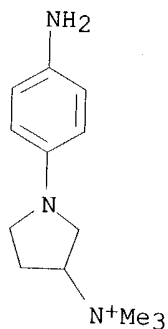
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 435275-64-2P 435275-65-3P 435275-66-4P  
 435275-67-5P 435275-68-6P 435275-69-7P  
 435275-70-0P 435275-71-1P 435275-72-2P  
 435275-73-3P 435275-74-4P 435275-75-5P  
 RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL  
 (Biological study); PREP (Preparation); USES (Uses)  
 (primary intermediates for oxidative coloration of hair)

IT 74-87-3, Methyl chloride, reactions 74-88-4, Methyl iodide, reactions.  
 77-78-1, Methyl sulfate 361346-46-5  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (primary intermediates for oxidative coloration of hair)

IT 435275-76-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (primary intermediates for oxidative coloration of hair)

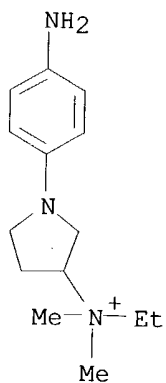
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 435275-70-0P 435275-71-1P 435275-72-2P  
 435275-73-3P 435275-74-4P 435275-75-5P  
 RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL  
 (Biological study); PREP (Preparation); USES (Uses)  
 (primary intermediates for oxidative coloration of hair)

RN 435275-60-8 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, iodide (9CI) (CA  
 INDEX NAME)



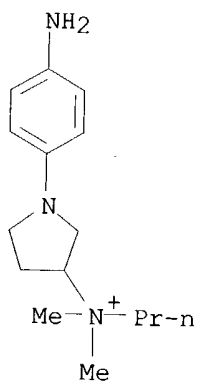
● I<sup>-</sup>

RN 435275-61-9 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, iodide (9CI)  
 (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-62-0 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, iodide  
 (9CI) (CA INDEX NAME)

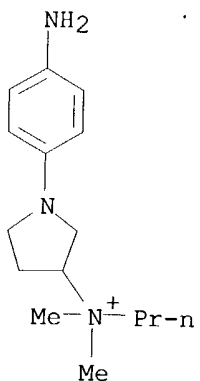


● I<sup>-</sup>

RN 435275-64-2 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, propyl  
 sulfate (9CI) (CA INDEX NAME)

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CRN 435275-63-1  
 CMF C15 H26 N3

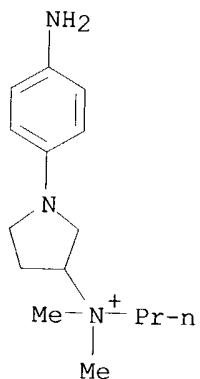


CM 2

CRN 72640-73-4  
CMF C3 H7 O4 S

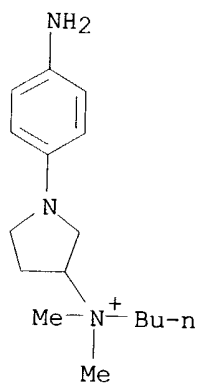
n-Pr-O-SO<sub>3</sub><sup>-</sup>

RN 435275-65-3 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, bromide  
(9CI) (CA INDEX NAME)



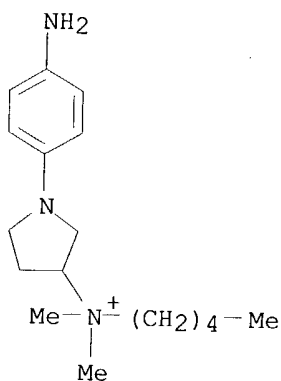
● Br<sup>-</sup>

RN 435275-66-4 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-butyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



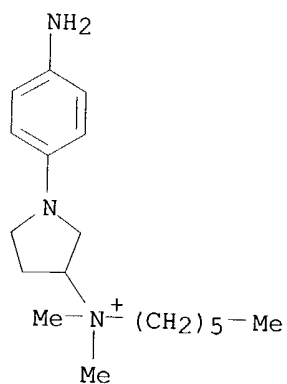
● I<sup>-</sup>

RN 435275-67-5 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-pentyl-, iodide  
 (9CI) (CA INDEX NAME)



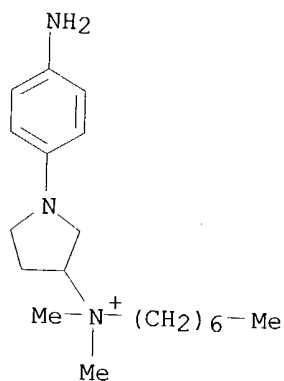
● I<sup>-</sup>

RN 435275-68-6 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexyl-N,N-dimethyl-, iodide (9CI)  
 (CA INDEX NAME)



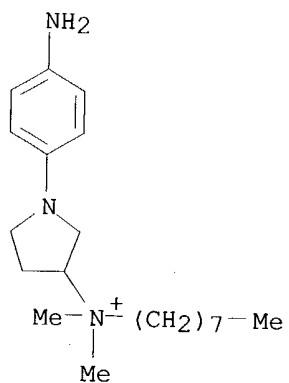
● I<sup>-</sup>

RN 435275-69-7 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-heptyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



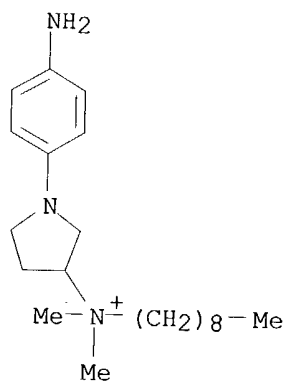
● I<sup>-</sup>

RN 435275-70-0 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-octyl-, iodide (9CI)  
(CA INDEX NAME)



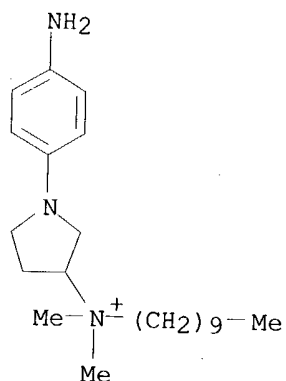
● I<sup>-</sup>

RN 435275-71-1 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-nonyl-, iodide (9CI)  
(CA INDEX NAME)



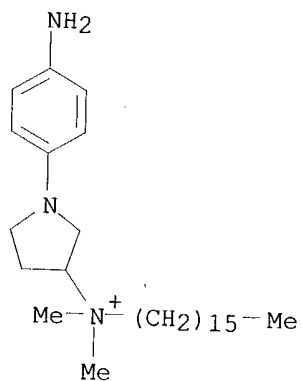
● I<sup>-</sup>

RN 435275-72-2 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-decyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



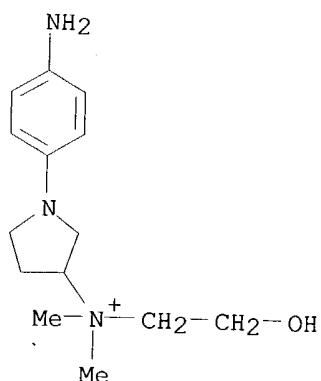
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RN 435275-73-3 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexadecyl-N,N-dimethyl-, iodide (9CI) (CA INDEX NAME)



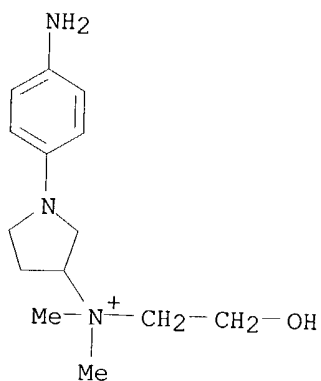
● I<sup>-</sup>

RN 435275-74-4 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-75-5 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-,  
bromide (9CI) (CA INDEX NAME)



● Br<sup>-</sup>

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 21 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2001:693042 HCAPLUS  
DN 135:262002  
TI Dyeing compositions for keratinous fibers containing para-phenylenediamine  
derivatives with pyrrolidinyl group  
IN Vidal, Laurent; Terranova, Eric; Sabelle, Stephane  
PA L'oreal, Fr.  
SO PCT Int. Appl., 73 pp.  
CODEN: PIXXD2  
DT Patent

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001068043	A2	20010920	WO 2001-FR745	20010313
	WO 2001068043	A3	20020307		
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW:				
	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2806299	A1	20010921	FR 2000-3250	20000314
	FR 2806299	B1	20021220		
	BR 2001005802	A	20020326	BR 2001-5802	20010313
	EP 1200052	A2	20020502	EP 2001-913996	20010313
	R:				
	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2003526647	T2	20030909	JP 2001-566510	20010313
	RU 2223743	C2	20040220	RU 2001-133389	20010313
	US 2003093866	A1	20030522	US 2002-959913	20020409
PRAI	FR 2000-3250	A	20000314		
	WO 2001-FR745	W	20010313		

OS MARPAT 135:262002

AB The invention concerns novel dyeing compns. for keratinous fibers comprising at least a paraphenylenediamine derivative with pyrrolidinyl group as oxidation base, a dyeing method and a dyeing kit using said composition

Thus, 1-(4-amino-3-methylphenyl)pyrrolidin-3-ol (I) was prepared by the hydrogenation of 1-(4-nitro-3-methylphenyl)pyrrolidin-3-ol (preparation given). An oxidative hair dye preparation contained I 3x10<sup>-3</sup>, 2,4-diamino-1-( $\beta$ -hydroxyethyloxy)benzene. dihydrochloride 3x10<sup>-3</sup> mole, excipient and water q.s. 100 g. Equal amount of the composition is mixed with 6% hydrogen peroxide and applied on 90% white hair for 30 min, the hair is then rinsed, washed with shampoo, and dried to obtain a blue color.

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

Section cross-reference(s): 27

ST oxidative hair dye pyrrolidinyl phenylenediamine deriv

IT Bromates

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(alkali metal salts; oxidative hair dyes containing para-phenylenediamine derivs. with pyrrolidinyl group)

IT Polyelectrolytes

(amphoteric; oxidative hair dyes containing para-phenylenediamine derivs. with pyrrolidinyl group)

IT Polyelectrolytes

(cationic; oxidative hair dyes containing para-phenylenediamine derivs. with pyrrolidinyl group)

IT Hair preparations

(dyes, oxidative; oxidative hair dyes containing para-phenylenediamine derivs. with pyrrolidinyl group)

IT Salts, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(of peroxy acids; oxidative hair dyes containing para-phenylenediamine derivs. with pyrrolidinyl group)

IT Coupling agents  
Oxidizing agents  
(oxidative hair dyes containing para-phenylenediamine derivs. with pyrrolidinyl group)

IT Enzymes, biological studies  
Peroxy acids  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(oxidative hair dyes containing para-phenylenediamine derivs. with pyrrolidinyl group)

IT 89-25-8 90-15-3,  $\alpha$ -Naphthol 95-88-5, 4-Chloro 1,3 dihydroxybenzene 108-26-9 108-45-2, 1,3 Diaminobenzene, biological studies 108-46-3, 1,3 Dihydroxybenzene, biological studies 124-43-6 533-31-3, Sesamol 591-27-5, 3 aminophenol 608-25-3, 1,3 dihydroxy 2 methylbenzene 2380-86-1, 6 hydroxyindole 2380-94-1, 4 hydroxyindole 2835-95-2, 2 methyl 5 aminophenol 4664-16-8, 2,6-Dihydroxy-4-methyl pyridine 4770-37-0 7469-77-4, 2-Methyl-1-naphthol 7556-37-8 7722-84-1, Hydrogen peroxide, biological studies 16867-03-1 30569-52-9 55302-96-0 70643-19-5 81892-72-0 83763-47-7 93846-05-0  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(oxidative hair dyes containing para-phenylenediamine derivs. with pyrrolidinyl group)

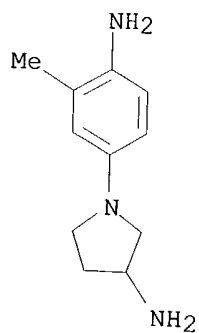
IT 361346-25-0P 361346-31-8P 361346-37-4P  
361346-40-9P 361346-44-3P 361346-49-8P  
361346-53-4P 361346-57-8P 361346-61-4P  
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(oxidative hair dyes containing para-phenylenediamine derivs. with pyrrolidinyl group)

IT 74-88-4, Methyl iodide, reactions 350-46-9, 1-Fluoro-4-nitrobenzene 446-33-3, 5-Fluoro-2-nitrotoluene 455-88-9, 1-Fluoro-2-methyl-4-nitrobenzene 2799-21-5 40499-83-0, 3-Pyrrolidinol 69478-75-7 79286-74-1, 3 acetamidopyrrolidine 181959-79-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(oxidative hair dyes containing para-phenylenediamine derivs. with pyrrolidinyl group)

IT 448-19-1P 218944-30-0P 361346-27-2P 361346-29-4P 361346-34-1P 361346-42-1P 361346-46-5P 361346-55-6P 361346-59-0P 361346-63-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(oxidative hair dyes containing para-phenylenediamine derivs. with pyrrolidinyl group)

IT 361346-25-0P 361346-31-8P 361346-37-4P  
361346-40-9P 361346-44-3P 361346-49-8P  
361346-53-4P 361346-57-8P 361346-61-4P  
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(oxidative hair dyes containing para-phenylenediamine derivs. with pyrrolidinyl group)

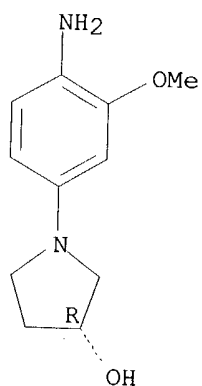
RN 361346-25-0 HCAPLUS  
CN 3-Pyrrolidinamine, 1-(4-amino-3-methylphenyl)-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

RN 361346-31-8 HCAPLUS  
CN 3-Pyrrolidinol, 1-(4-amino-3-methoxyphenyl)-, dihydrochloride, (3R)- (9CI)  
(CA INDEX NAME)

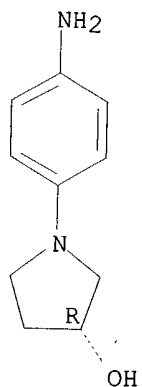
Absolute stereochemistry.



●2 HCl

RN 361346-37-4 HCAPLUS  
CN 3-Pyrrolidinol, 1-(4-aminophenyl)-, dihydrochloride, (3R)- (9CI) (CA  
INDEX NAME)

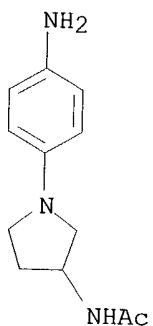
Absolute stereochemistry.



● 2 HCl

RN 361346-40-9 HCAPLUS

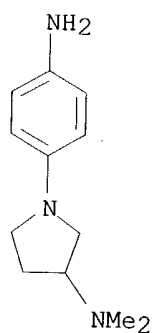
CN Acetamide, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-, dihydrochloride (9CI)  
(CA INDEX NAME)



● 2 HCl

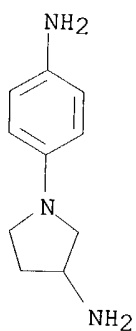
RN 361346-44-3 HCAPLUS

CN 3-Pyrrolidinamine, 1-(4-aminophenyl)-N,N-dimethyl-, dihydrochloride (9CI)  
(CA INDEX NAME)



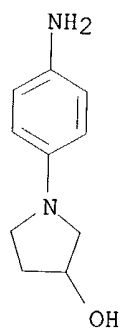
● 2 HCl

RN 361346-49-8 HCAPLUS  
CN 3-Pyrrolidinamine, 1-(4-aminophenyl)-, dihydrochloride (9CI) (CA INDEX NAME)



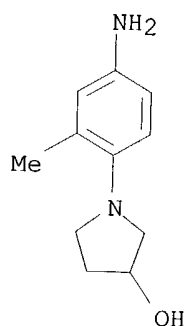
● 2 HCl

RN 361346-53-4 HCAPLUS  
CN 3-Pyrrolidinol, 1-(4-aminophenyl)-, hydrochloride (10:17) (9CI) (CA INDEX NAME)



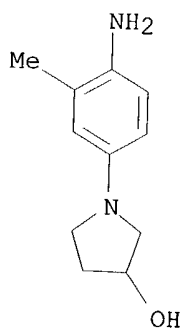
●17/10 HCl

RN 361346-57-8 HCAPLUS  
CN 3-Pyrrolidinol, 1-(4-amino-2-methylphenyl)-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

RN 361346-61-4 HCAPLUS  
CN 3-Pyrrolidinol, 1-(4-amino-3-methylphenyl)-, dihydrochloride (9CI) (CA INDEX NAME)



● 2 HCl

L12 ANSWER 22 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1999:761015 HCAPLUS  
 DN 132:6218  
 TI Oxidative hair dye compositions containing 1-(4-aminophenyl)-2-pyrrolidinemethanols  
 IN Lim, Mu-Ill; Popp, Margaret; Pan, Yuh-Guo  
 PA Bristol-Myers Squibb Company, USA  
 SO U.S., 11 pp.  
 CODEN: USXXAM

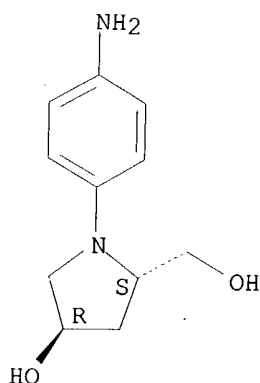
DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5993491	A	19991130	US 1998-78264	19980513
	JP 11349564	A2	19991221	JP 1999-128536	19990510
	EP 962452	A1	19991208	EP 1999-201486	19990512
	EP 962452	B1	20030917		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	MX 9904400	A	20000331	MX 1999-4400	19990512
PRAI	US 1998-78264	A	19980513		
OS	MARPAT 132:6218				
AB	<p>Comps. for the oxidative coloring of human hair contain as a novel primary dye intermediate a 1-(4-aminophenyl)-2-pyrrolidinemethanol, or a cosmetically acceptable salt. The comps. may also contain at least 1 other primary intermediate and conventional coupling compds., in addition to an oxidizing agent and other components typically used in oxidative hair dye preps. A preferred dye intermediate in the composition is (S)-1-(4-aminophenyl)-2-pyrrolidinemethanol (I) or cosmetically acceptable salts, which produce intense black colors when used in admixt. with a suitable coupling agents, such as 3-aminophenol, in conventional hair dye base formulations. Thus, 1-fluoro-4-nitrobenzene was treated with (S)-(+)-2-pyrrolidinemethanol and K<sub>2</sub>CO<sub>3</sub> in DMF, and the resulting product was hydrogenated in the presence of 10% Pd on carbon in EtOH solution to give I. Cocamidopropyl betaine 17, ethanolamine 2, oleic Acid 0.75, citric Acid 0.1, NH<sub>4</sub>OH 5.0, behentrimonium chloride 0.5, Na<sub>2</sub>SO<sub>3</sub> 0.1, EDTA 0.1, I 5 mmole, a coupler (e.g., 3-aminophenol) 5 mmole and water qs to 100%. The above composition was mixed with 100 g of 20 volume H<sub>2</sub>O<sub>2</sub> and the mixture was</p>				

applied to piedmont hair or gray hair and permitted to remain in contact with hair for 30 min. Thus dyed hair was then shampooed and rinsed with water and dried.

IC ICM A61K007-13  
 NCL 008409000  
 CC 62-3 (Essential Oils and Cosmetics)  
 Section cross-reference(s): 34  
 ST oxidative hair dye aminophenylpyrrolidinemethanol prepn;  
 pyrrolidinemethanol aminophenyl oxidative hair dye prepn  
 IT Hair preparations  
 (dyes, oxidative; oxidative hair dye compns. containing  
 (aminophenyl)pyrrolidinemethanols)  
 IT Coupling agents  
 Oxidizing agents  
 (oxidative hair dye compns. containing (aminophenyl)pyrrolidinemethanols)  
 IT 89-25-8, 3-Methyl-1-phenyl-2-pyrazolin-5-one 90-15-3, 1-Naphthol  
 95-55-6, o-Aminophenol 95-70-5, p-Toluenediamine 95-86-3,  
 2,4-Diaminophenol 106-50-3, 1,4-Benzenediamine, biological studies  
 108-45-2D, 1,3-Benzenediamine, derivs., biological studies 108-46-3,  
 1,3-Benzenediol, biological studies 108-46-3D, Resorcinol, derivs.  
 108-95-2D, Phenol, derivs., biological studies 123-30-8, p-Aminophenol  
 123-30-8D, p-Aminophenol, derivs. 150-75-4, p-MethylAminophenol  
 591-27-5 591-27-5D, derivs. 608-25-3, 2-MethylResorcinol 2835-95-2,  
 2-Hydroxy-4-aminotoluene 2835-96-3, 2-Methyl-p-Aminophenol 2835-98-5,  
 5-Methyl-o-aminophenol 2835-99-6, 3-Methyl-p-Aminophenol 7469-77-4,  
 2-Methyl-1-Naphthol 7575-35-1 16867-03-1, 2-Amino-3-hydroxypyridine  
 17672-22-9, 6-Methyl-o-aminophenol 19298-14-7, 2-Hydroxyethyl-p-  
 Phenylenediamine 29785-47-5, 2-Methoxymethyl-p-Aminophenol 70643-19-5,  
 2-(2,4-Diaminophenoxy)ethanol 110952-46-0 251108-64-2  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
 (oxidative hair dye compns. containing (aminophenyl)pyrrolidinemethanols)  
 IT 132041-37-3P **251108-60-8P** 251108-62-0P 251108-70-0P  
 RL: BUU (Biological use, unclassified); **SPN (Synthetic  
 preparation)**; BIOL (Biological study); **PREP (Preparation)**;  
 USES (Uses)  
 (oxidative hair dye compns. containing  
 (aminophenyl)pyrrolidinemethanols)  
 IT 7722-84-1, Hydrogen peroxide, uses  
 RL: CAT (Catalyst use); USES (Uses)  
 (oxidative hair dye compns. containing (aminophenyl)pyrrolidinemethanols)  
 IT 51-35-4, trans-4-Hydroxy-L-proline 350-46-9, 1-Fluoro-4-nitrobenzene  
 23356-96-9, (S)-(+)-2-Pyrrolidinemethanol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (oxidative hair dye compns. containing (aminophenyl)pyrrolidinemethanols)  
 IT 88422-19-9P 129297-51-4P 251108-59-5P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (oxidative hair dye compns. containing (aminophenyl)pyrrolidinemethanols)  
 IT **251108-60-8P**  
 RL: BUU (Biological use, unclassified); **SPN (Synthetic  
 preparation)**; BIOL (Biological study); **PREP (Preparation)**;  
 USES (Uses)  
 (oxidative hair dye compns. containing  
 (aminophenyl)pyrrolidinemethanols)  
 RN 251108-60-8 HCAPLUS  
 CN 2-Pyrrolidinemethanol, 1-(4-aminophenyl)-4-hydroxy-, (2S,4R)- (9CI) (CA  
 INDEX NAME)

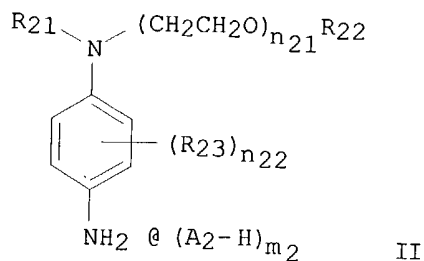
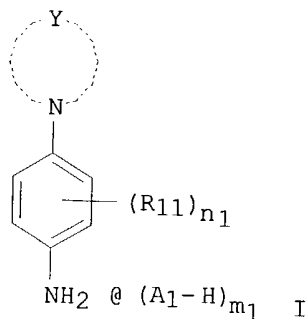
Absolute stereochemistry.



RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 23 OF 23 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 1999:380671 HCAPLUS  
DN 131:63210  
TI Hair dyes containing dialkylaniline compounds  
IN Kimura, Keizo  
PA Fuji Photo Film Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 28 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11158048	A2	19990615	JP 1997-329998	19971201
	US 2002197223	A1	20021226	US 1998-200733	19981127
	US 6613313	B2	20030902		
PRAI	JP 1997-328129	A	19971128		
	JP 1997-328130	A	19971128		
	JP 1997-329998	A	19971201		
OS	MARPAT 131:63210				
GI					

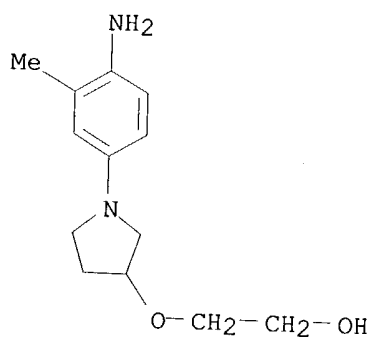


AB Hair dyes showing excellent applicability and washing-resistance contain

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

dialkylaniline compds. I and II [R11 = alkyl or other substitution group, Y = alkyl or other group-substituted tetramethylene; n1 0-4; A1 = H or acid m1 = 0-2; R21 = Me or other alkyl; R22 = H, alkyl, etc.; R23 = alkyl, n21 = 2-8; n21 = 2-8; n22 = 0-4; A2 = H or acid]. A hair dye contained a dialkylaniline compound 10, p-aminophenol 3, 5-amino-2-methylphenol 1.0, resorcinol 2.0, sodium percarbonate 40, ammonium monohydrogen phosphate 15, stearyltrimethylammonium chloride 2.0, di-Na EDTA 0.2, xanthan gum 6.5, sodium CM-cellulose 20, and perfumes 0.3 weight%.

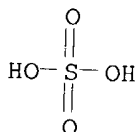
IC ICM A61K007-13  
 CC 62-3 (Essential Oils and Cosmetics)  
 ST hair dye dialkylaniline compd  
 IT Hair preparations  
 (dyes; hair dyes containing dialkylaniline compds.)  
 IT 228268-54-0P 228268-60-8P 228268-66-4P 228268-70-0P  
 228268-71-1P 228268-73-3P 228268-75-5P 228268-77-7P  
 228268-78-8P 228268-80-2P 228268-82-4P 228268-84-6P 228268-86-8P  
 228268-88-0P  
 RL: BUU (Biological use, unclassified); RCT (Reactant); SPN  
 (Synthetic preparation); BIOL (Biological study); PREP  
 (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (hair dyes containing dialkylaniline compds.)  
 IT 75-26-3 81-04-9, 1,5-Naphthalenedisulfonic acid 98-59-9 109-99-9,  
 reactions 112-60-7 506-96-7, Acetyl bromide 591-20-8 3433-37-2,  
 2-Piperidinmethanol 5197-62-6 5369-16-4 15470-55-0  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (hair dyes containing dialkylaniline compds.)  
 IT 4753-59-7P 77544-60-6P 131738-73-3P 228268-50-6P 228268-51-7P  
 228268-55-1P 228268-56-2P 228268-57-3P 228268-58-4P 228268-62-0P  
 228268-64-2P 228268-67-5P 228268-68-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (hair dyes containing dialkylaniline compds.)  
 IT 228268-71-1P 228268-75-5P  
 RL: BUU (Biological use, unclassified); RCT (Reactant); SPN  
 (Synthetic preparation); BIOL (Biological study); PREP  
 (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (hair dyes containing dialkylaniline compds.)  
 RN 228268-71-1 HCAPLUS  
 CN Ethanol, 2-[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]-, sulfate  
 (1:1) (salt) (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 143525-61-5  
 CMF C13 H20 N2 O2



CM 2

CRN 7664-93-9

CMF H2 O4 S



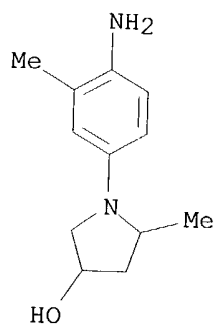
RN 228268-75-5 HCAPLUS

CN 1,5-Naphthalenedisulfonic acid, compd. with 1-(4-amino-3-methylphenyl)-5-methyl-3-pyrrolidinol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 228268-74-4

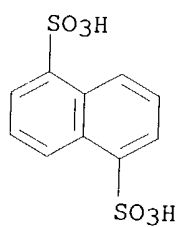
CMF C12 H18 N2 O



CM 2

CRN 81-04-9

CMF C10 H8 O6 S2



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